Virginia Medical Monthly

Offical Publication of the Medical Society of Virginia

Vol. 60, No. 12. WHOLE No. 981. RICHMOND, VA., MARCH, 1934 $2.00 A YEAR 25 CENTS A COPY

BRONCHOSCOPY AND ESOPHAGOSCOPY: REPORT OF CASES.*

E. T. GATEWOOD, M. D.,
and
THOS. E. HUGHES, M. D.,
Richmond, Va.

Frequently, there are no immediate signs or symptoms of foreign body in the air and food passages except the initial spasm during the act of inspiration or of swallowing the object, and years may pass before any symptoms develop. There is usually choking or coughing with the entrance of the foreign body, and these signs seen in a child while playing with objects are quite ominous and should always be investigated for foreign body. Sometimes, but not always, there is a sticking sensation if the object be sharp. There are no absolutely diagnostic symptoms of foreign body in the esophagus. Dysphagia is the most constant complaint. There may be pain or the sensation of a foreign body. Dyspnea is sometimes produced from pressure on the air passages by a foreign body in the esophagus. And, occasionally, a tracheo-esophageal fistula is produced as a result of pressure necrosis.

A foreign body in the larynx produces an initial laryngeal spasm, followed by wheezing respiration, croupy cough and varying degrees of impairment of phonation.

Tracheal foreign bodies are usually movable, of which movement the patient is conscious. Cough, dyspnea and the "asthmatoid wheeze" are usually present; however, the "audible slap" and "palpatory thud" are pathognomonic of foreign body in the trachea. A foreign body in the bronchus is usually accompanied by the initial laryngeal spasm and, if it is organic, such as a peanut kernel, bean, pea, grain of corn, etc., a diffuse, purulent tracheobronchitis usually develops very quickly in young children. If the foreign body is metallic, there may be no sign nor symptom, except the initial laryngeal spasm, for a long period, though cough and purulent expectoration ultimately result. Limitation of motion of the lung on the affected side if the foreign body is metallic is an important sign, but no explanation is offered for this peculiarity.

A foreign body that almost but not quite fills a main bronchus will admit air on inspiration but block it on expiration (due to the bronchi being smaller in calibre on expiration than on inspiration). This produces an obstructive emphysema and a lower diaphragm on the affected side, with the heart displaced to the opposite side on expiration. However, the heart returns to practically its normal position during inspiration. The roentgenogram shows this very plainly, as the affected side contains more air than the normal side at full expiration. For this reason, Dr. Jackson says that for many years roentgenologists diagnosed the foreign body on the wrong side. In order to show this properly, a picture should be made at the end of inspiration and at the end of expiration.

In an obstructive emphysema, inspection and palpation show less movement on the affected side; percussion gives a hyperresonant note, and auscultation shows diminished breath sounds and the absence of rales. Rales will be heard on the opposite side if sufficient bronchitis be present.

If the foreign body completely obstructs a bronchus both on inspiration and expiration, air is absorbed from the lung and an obstructive atelectasis results. In this condition, there is an absence of expansion on the affected side, flatness or percussion and an absence of breath sounds. The diaphragm remains constantly higher than on the opposite side. A compensatory emphysema is produced on the opposite side. X-ray films show the affected side dense, and the heart displaced towards the same side where it remains. This condition is analogous to collapse of the lung following general anesthesia, when the bronchus becomes plugged with mucus. If the bronchus has been plugged only a short time, the atelectasis begins to clear up in half an hour after uncorking the bronchus. These conditions are caused frequently by organic foreign bodies that swell, though it may be caused by any variety of for-

*Read before the Virginia Society of Ophthalmology and Otolaryngology, Harrisonburg, Va., May 6, 1933.

eign body. A foreign body that does not become impacted may move from the trachea into one bronchus and then into the other.

Diagnosis is made by the history, physical findings, the roentgenogram and endoscopy.

As said previously, when a child strangles or coughs while playing with any kind of small object, or if a definite diagnosis cannot be made when a child is sick, a foreign body should always be considered, as he is too prone to put objects in his mouth.

In a child, hoarseness, croupy cough, dyspnea, wheezing respiration or any unexplained lung pathology should cause us to consider a foreign body, as well as laryngitis, bronchitis, lung abscess and diphtheria cases. Fever may or may not be present, depending upon the nature of the foreign body and the duration of its sojourn. X-ray should be a routine measure for diagnosis and the pictures should be made always in the antero-posterior and lateral planes and in intermediate planes if necessary. In X-raying for foreign body in the esophagus, pictures should be made of the entire gastro-intestinal tract. If a flat foreign body such as a coin is located in the upper chest in the coronal plane, it is assumed to be in the esophagus; if in the sagittal plane, it is assumed to be in the larynx or trachea, and the reasons for this are obvious, due to the shape of the esophagus and the larynx.

X-ray films usually show lung pathology splendidly, but sometimes they do not reveal the presence of a very thin metallic foreign body unless the Bucky diaphragm is used, and then only when the object is taken on edge. Non-radio opaque foreign bodies must be diagnosed upon the history, symptoms, physical signs and lung changes incident to the foreign body as represented by the X-ray.

When a foreign body is suspected in the esophagus and does not show on the X-ray plate, opaque meals and capsules are resorted to. The bougie has no place in diagnosing esophageal conditions, and should be regarded as a dangerous instrument for this purpose.

Treatment of foreign body in either the air or food passage is removal, through the peroral route if possible. As a rule, our adult cases are given a hypodermic of morphine and hyoscine and a topical application of cocaine to the larynx and trachea prior to removal of the foreign body. In children, if there is not too much tracheo-bronchitis, we frequently use a general anesthetic, feeling that less trauma of the larynx is produced and hence less edema, which obviates the necessity of a subsequent tracheotomy.

We cannot emphasize too strongly that the procedure of removing an organic foreign body from the bronchus of a young child—almost overwhelmed by toxemia from the purulent tracheo-bronchitis and by physical exertion while fighting for air—presents a serious problem. To be done successfully, it requires the best judgment and skill at our command, combined with experienced team work and adequate equipment.

Case Reports

Case 1.—M. L. S., age two years, admitted to Johnston-Willis Hospital, October 10, 1932, with a history of eating peanuts, when his father playfully bounced him up in his arms. He immediately choked and this was followed by marked dyspnea and severe cough. He was admitted to the hospital eight hours later and his temperature was 103.4. The child was dyspneic and very restless. The chest examination revealed coarse rales throughout the right lung with diminished breath sounds over the right upper lobe. X-ray indicated impaired aeration of the right lung and flattening of the right portion of diaphragm.

Bronchoscopy was immediately done and a portion of a roasted peanut removed from the right main bronchus, at the upper lobe branch. The child was returned to room apparently relieved; however, the following day cough and fever persisted, which we attributed to the peculiar peanut bronchitis that sometimes follows. On the fourth day, fever and restlessness were unchanged; leucocytes 12,000. Second X-ray of the chest was negative; nevertheless, it was thought advisable to pass the bronchoscope again. To our surprise another piece of peanut was found in the same bronchus. This was removed, and the scope reintroduced for exploration the third time, and to our amazement another portion of peanut was seen located in the same bronchus. After removing this we again introduced the scope to make sure there were no more portions present.

The child made a quick recovery and left the hospital on the sixth day. These pieces of peanut were large, nearly equal in size, and superimposed upon each other in the same

bronchus; hence their obscurity until the upper one was removed.

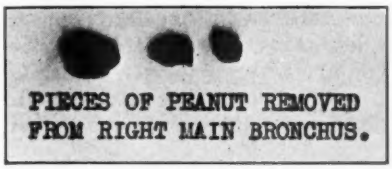

Fig. 1.

Case 2.—White woman, age forty-five years, seen February 18, 1929, stated, when eating oysters six days previously she was suddenly and severely seized with pain through the lower central portion of her chest. On the third day her pain was severe and she was unable to swallow any type of food. X-ray studies were made which revealed esophageal obstruction in its lower third, simulating malignancy or cardio-spasm.

The patient was admitted to the Johnston-Willis Hospital and esophagoscopy decided upon. After reaching the occluded area, persistent and gentle manipulation with the esophagoscope exposed the edge of a portion of an oyster shell. As the sojourn had been six days and the shell large, inflammatory occlusion had taken place. The shell evidently reached its destination by adhering to the side of a large oyster before being detached. The patient's temperature ranged around one hundred and two after the shell was removed.

Post-operative treatment consisted of morphine, sterile water, and bismuth for three days. The patient was discharged on the fifth day relieved.

Comment: Had diagnosis been deferred much longer, perforation with its inevitable results would have followed.

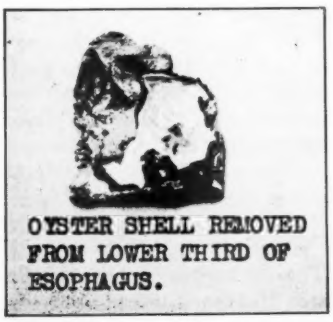

Fig. 2.

Case 3.—White woman, age twenty-seven years, stated that she was eating quail two days before when she was suddenly conscious of pain in the chest. The next day, swallowing was painful and difficult. X-ray films were negative. Fluoroscopy with barium mixture showed a partial esophageal obstruction in the upper third.

The patient was admitted to the Johnston-Willis Hospital; esophagoscope passed and a bone located and removed simulating a quail's rib. Recovery was uneventful.

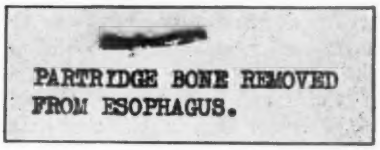

Fig. 3.

Case 4.—B. L. C., age thirteen months, admitted to Johnston-Willis Hospital, August 1, 1930. Mother stated baby had been crying and regurgitating milk for two days. Roentgen ray showed open safety-pin in upper third of esophagus with point upward. Delivery was accomplished under anesthesia by disengaging the point and making gentle traction.

Fig. 4.

Case 5.—R. E. C., age thirty-six years. Patient stated while eating chicken stew he was seized with a pain in the chest. He consulted his physician and was found negative. An X-ray was made of the chest, including a barium meal, and an obstruction was located in the lower esophagus.

Exploratory esophagoscopy was done and a bone located and removed, one and one-half inches long.

The patient left the hospital in three days entirely relieved.

Comment: The lower point of the bone had pierced the wall but not entirely through.

Fig. 5.

Case 6.—White man, aged thirty years, seen December 3, 1928. When admitted to Johnston-Willis Hospital, he stated, while eating rabbit stew the previous day he was suddenly conscious of a sticking sensation in the upper part of his chest. The next day the pain continued, and swallowing was difficult and painful. Fluoroscopic examination with barium fluid and capsules was indefinite, though the X-ray film indicated a small bone in the vertical position in the upper third of the esophagus. The patient was admitted to the hospital and esophagoscoped. A bone simulating a rabbit's rib was found, one end imbedded in the posterior esophageal wall with the proximal end free. Removal was not difficult, and the patient made a quick recovery, leaving the hospital in three days.

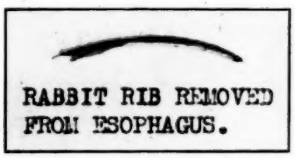

Fig. 6.

Case 7.—Penny from upper third of esophagus. B. H., age twenty-two months. Mother stated she noticed the day before the baby spat up his food and would cry when fed. She consulted her physician who had the esophagus X-rayed and a metallic substance was seen simulating a coin about the esophageal sphincter muscle. A small esophagoscope was inserted and a penny removed.

Fig. 7.

Case 8.—B. M., age two years. Bean removed from trachea after a three day sojourn. The child's parents stated the infant had a choking spell three days before being brought to the hospital. The bean had swollen so that it was impossible to deliver it through the larynx without undue trauma. Tracheotomy was performed and delivery was made by this route.

Comment: Had this child's condition been recognized the first day no doubt a tracheotomy would have been unnecessary.

Fig. 8.

Case 9.—Open safety pin from larynx. L. M. S., age one year, admitted to Johnston-Willis Hospital, May 8, 1929. The baby manifested symptoms of stridor and difficult breathing. Physical examination was negative. Roentgen ray of chest showed open safety-pin at junction of larynx and trachea. It was removed the same day and the patient left the hospital the next day, relieved.

Fig. 9.

Case 10—Large perforated bead from right bronchus. V. F., age six years, was admitted to Johnston-Willis Hospital August 8, 1930. Mother stated child was playing with beads when she developed a sudden choking spell, violent dyspnea and cough followed. She immediately brought her to Richmond where roentgen ray films showed the object in the trachea. The bead was so large that it could not be delivered easily through the vocal cords. The child would have probably been asphyxiated had not the bead possessed a central perforation.

Tracheotomy was performed and the bronchoscope introduced through the tracheal opening and the bead delivered.

The child made an uneventful recovery.

Fig. 10.

Case 11.—M. N., age two years, admitted to Johnston-Willis Hospital August 14, 1930. The child's mother stated the infant was eating watermelon and suddenly choked and strangled. These symptoms gradually subsided and a wheeze developed with each inspiration. Exploratory bronchoscopy showed a seed located in the right bronchus at the junction of the lower and middle lobe bronchus.

The seed was removed with little difficulty and the child left the hospital the following day.

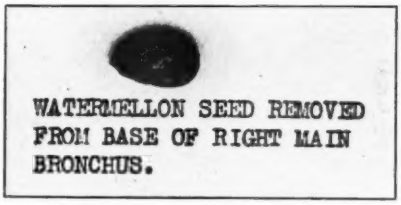

Fig. 11.

Case 12.—P. J., age three years, seen March 30, 1931, with a history of choking on a grain of corn. Cough and labored respiration continued. Physical examination showed diminished or nearly absent breath sounds over the left chest.

Fig. 12.

Roentgen ray showed heart and trachea pushed to the right, indicating obstructive emphysema on the left. Bronchoscopy was done and a grain of corn found in the left main bronchus; this was removed and the child made a good recovery.

Case 13.—White child, aged five years, admitted to Johnston-Willis Hospital September 16, 1929. Mother stated the child was feeding chickens and while doing so held grains of corn in his mouth. He was frightened by a chicken flying towards his face. He had a violent attack of choking, coughing and dyspnea which gradually subsided; cough and fever persisted and on the sixth day he was sent to the hospital.

Physical and X-ray findings were essentially negative; however, with the definite history obtained, exploratory bronchoscopy was done. A grain of corn was located in the right bronchus, and removed. The cough and fever subsided and the child was discharged on the third day relieved.

Comment: This case illustrates the importance of a history in spite of negative physical signs and secondary roentgen ray changes.

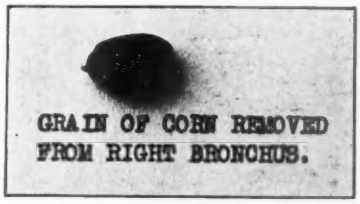

Fig. 13.

Case 14.—W. M. B., age three years; admitted to the Johnston-Willis Hospital September 8, 1930. August 29th the child was eating watermelon and playing with a duck. Suddenly the child developed a choking and coughing spell. This was followed by wheezing and coughing.

A physician treated the child six days; it was then sent to a clinic, examined, and returned home with a diagnosis of whooping cough. The cough and restlessness persisted, so it was taken to another city for examination. A foreign body was suspected and the child referred back to Richmond. Examination revealed rales throughout the chest, asthmatoid wheeze, cough and hoarseness. Roentgen ray films showed emphysema of left lung, suggesting expiratory obstruction in the left main bronchus. Bronchoscopy showed a watermelon seed lodged in left bronchus, which

was removed; the bronchitis and cough cleared up in a few days. The child left the hospital on the fourth day relieved.

Comment: This child was treated nine days by four physicians before a foreign body was suspected. A case of this nature emphasizes the importance of a careful history.

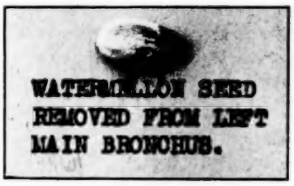

Fig. 14.

Case 15.—B. H., age twenty-two months, admitted to Johnston-Willis Hospital April 26, 1931, with a history of choking while having corn in his mouth the previous day.

Examination showed diminished breath sounds over entire right lung. Roentgen ray indicated obstructive emphysema of right lung. The child was restless and dyspneic.

Bronchoscopy was performed and a grain of corn was located at the right main bronchus, nearly occluding the lumen. It was removed and the child left the hospital the following day.

Fig. 15.

Case 16.—Metal washer removed from esophagus after a three day sojourn. A. P., age five years, seen May 25, 1929, complaining of inability to swallow. His temperature was 101 degrees and physical examination negative. Roentgen ray showed metal object in upper esophagus. Esophagoscopy was done and the washer removed. The patient was fever free in two days and discharged as relieved.

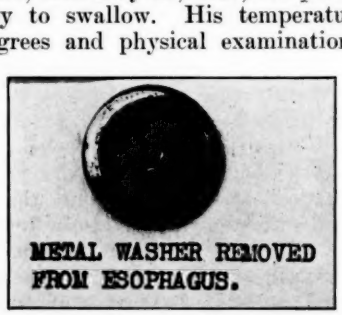

Fig. 16.

Case 17.—Nickel removed from upper esophagus. M. H., aged four years. The only symptom or history this child gave was inability to swallow. After two days of fasting an X-ray was taken and the diagnosis revealed. Esophagoscopy was performed and the child made an uneventful recovery.

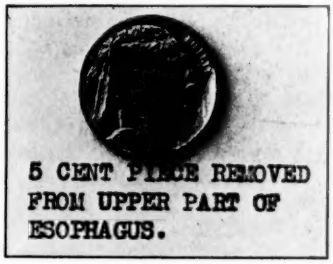

Fig. 17.

Case 18.—A. C., aged six years, admitted to St. Philip's Hospital February 20, 1930, with a history of difficult swallowing and regurgitation of food for five days.

X-ray films showed a metal ring in the esophagus on a level of sternoclavicular joint.

Esophagoscopy under general anesthesia showed incomplete ring imbedded by ulceration in posterior wall. Delivery was difficult without seriously lacerating esophageal wall. The child was discharged in three days relieved.

Fig. 18.

Case 19.—Wrist band clasp removed from laryngo-tracheal region after a three day sojourn. M. C., aged three years. Parents stated child had been having choking and rattling of mucus in throat for three days. Family physician suspected diphtheria; how-

ever, as no improvement occurred after antitoxin administration, and with the negative culture report, foreign body was suspected and the patient was sent to Richmond. The child was admitted to the Johnston-Willis Hospital and the diagnosis confirmed by the roentgen ray.

After bronchoscopic removal, the child left the hospital the following day relieved.

Fig. 19.

Case 20.—February 22, 1933, W. M. C., Jr., age six years, swallowed a button one inch in diameter. On admission to St Luke's Hospital, X-ray showed only a very faint shadow opposite the second dorsal vertebra. The object was swallowed seven hours before seen by us. No attempt had been made to swallow food. The button was found at the first esophageal constriction and removed with speculum and straight forceps.

Fig. 20.

Case 21.—June 2, 1930, B. C., age three years, swallowed a straight needle, and was admitted to St. Luke's Hospital. X-ray showed it in upper portion of esophagus. Under ether anesthesia, a straight needle two inches long was located with the speculum in the upper portion of the esophagus, each end being imbedded in the mucosa. After freeing the upper end with the forceps, it was removed.

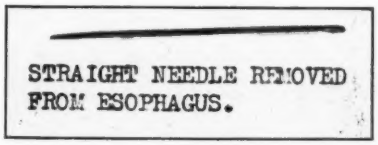

Fig. 21.

Case 22.—June 5, 1930, M. J., age one year, while playing on the floor with uncooked popcorn, put a grain in her mouth. Her mother tried to get it out, during which procedure the child strangled and coughed. Then she developed a wheezing respiration, croupy cough and dyspnea.

On admission to St. Luke's Hospital the temperature was 98.8 degree F. X-ray showed evidence of a non-opaque foreign body in the right main bronchus. The breath sounds on the right side were diminished. The heart was not displaced.

The popcorn was located in the right main bronchus, but some difficulty was experienced in grasping it. Following the removal, dyspnea was marked and the temperature elevated for several days, going as high as 104 degrees F. rectal. Although the course was stormy, the patient recovered without tracheotomy or other complication, and, five days after bronchoscopy, was discharged from the hospital. No anesthetic was used.

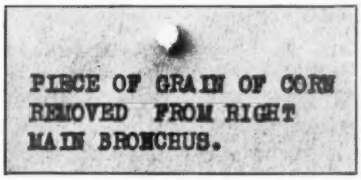

Fig. 22.

Case 23.—Mrs. Von H., while eating guinea fowl March 15, 1930, swallowed a piece of bone. The bone produced considerable discomfort and a definite sticking sensation in the lower part of the throat. She could swallow only liquids.

Under ether anesthesia, the bone was lo

Fig. 23.

cated and removed from upper third of the esophagus after first removing particles of food which obscured the foreign body. The patient went home the following day.

Case 24.—B. S., a five-year-old negro boy, was blowing a whistle. A thin metallic band inside the whistle came loose and was sucked into the larynx. X-ray showed the metallic object to be in the right main bronchus.

The object had been in the lung one day. There was slight cough. Temperature was normal.

The bronchoscope was inserted and the foreign body removed from the right main bronchus. Only a slight amount of secretion was found in the bronchial tubes. Neither local nor general anesthesia was used. Patient had an uneventful recovery and was discharged from St. Philip's Hospital the following day.

Fig. 24.

Case 25.—W. S., white boy, three years old, swallowed a button. When admitted to Memorial Hospital, the child was unable to swallow solid food. X-ray showed shadow of a round object in upper part of the esophagus. Under ether anesthesia and with the aid of the esophageal speculum and grasping forceps, a button was removed from the esophagus at the crico-pharyngeal constriction. No complication.

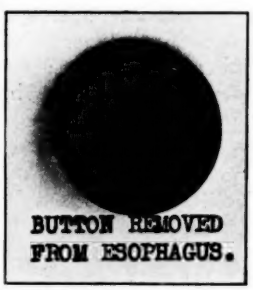

Fig. 25.

Case 26.—C. P., a four year old child, swallowed an open safety-pin and was admitted to Dooley Hospital. X-ray located the pin in the larynx with the keeper up. With the laryngoscope, the pin was removed. No anesthetic was used and no complication followed removal.

Fig. 26.

Case 27.—December 19, 1931. S. B., age three months, was fed a peanut by his little sister about six hours before admission to Johnston-Willis Hospital. He choked and coughed violently; developed signs of bronchial irritation and became cyanotic several times. Physical examination showed the child slightly cyanotic, uncomfortable and anxious, temperature 99.2 degrees F.

X-ray report: "Heart and mediastinal shadows are displaced to the right side. The outer and lower one-third of the lung shows lack of aeration. The left lung shows an emphysema.

"Conclusions: The changes are indirectly suggestive of a non-opaque foreign body in the right main bronchus."

Under ether anesthesia, a piece of peanut was removed from the right main bronchus without special difficulty about 2 P. M. At 6 P. M., the rectal temperature was 103.4 degrees F., and, although there was some dyspnea, it was not marked. However, by 11 P. M. the respiration had become so labored that a tracheotomy was performed with marked relief to respiration. The following day at 8 A. M., the temperature was 107 degrees F. A diagnosis of pneumonia was made and appropriate treatment instituted. The patient died the second night following operation.

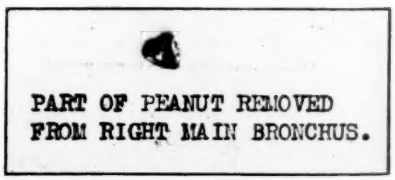

Fig. 27.

Autopsy Findings: "Both lungs contained large areas of consolidation. The upper right lobe was almost completely consolidated. The bronchi were explored for remaining pieces of peanut, but nothing was found. The thymus was large, weighing 22 grams."

Case 28.—M. M., adult woman, laughed while holding an open safety-pin in her mouth. The pin, with the point up, was located with fluoroscope and X-ray in the esophagus at the diaphragmatic constriction. The patient was admitted to Johnston-Willis Hospital. With local anesthesia, the esophagoscope and forceps, the pin was removed several hours after being swallowed. May 9, 1932. No complications ensued.

Fig. 28.

Case 29.—C. W., age two years, swallowed a five-cent-piece September 22, 1931, one week prior to admission to Johnston-Willis Hospital, and developed difficulty in swallowing. Vomited once. No fever or cough. X-ray showed the nickel in the upper portion of the esophagus. It was removed with the esophageal speculum and grasping forceps without the use of an anesthetic.

Fig. 29.

Case 30.—B. F. W., age two and one-half years, on November 9, 1932, swallowed a tiddle-de-wink on which she choked. After swallowing the foreign body, the patient could swallow liquids, but regurgitated solid food. On admission to St. Luke's Hospital, two days following accident, temperature was 100.6 degrees F. No cough present. X-ray, after barium, showed only a suspicious shadow in upper part of esophagus.

Under ether anesthesia, a tiddle-de-wink three-fourths inch in diameter was removed from the esophagus at the crico-pharyngeal constriction. After reaction from ether, fever soon disappeared and patient swallowed normally.

Fig. 30.

Case 31.—October 30, 1932. M. L. D., female, sixteen months, was fed salted peanuts by her little sister. She strangled and began coughing and wheezing, subsequently developing shortness of breath. She continued to play and did not appear sick, and was not seen by a physician until five days after the accident. He sent her immediately to St. Luke's Hospital. On admission, rectal temperature was 100 degrees F. Patient coughed and wheezed on exertion. When quiet, respiration was not labored.

X-ray showed an emphysema of the right lung, with the mediastinal structures displaced to the left, more marked on expiration than on inspiration, and the diaphragm constantly depressed on the right. Patient was given morphine, grains 1/24, and atropine, grains 1/450. A No. 4x30 bronchoscope was used and a piece of peanut found in the right main bronchus. It was readily grasped with the side-curved forceps and removed.

Fig. 31.

The point of interest about this case is that there was practically no tracheo-bronchitis nor exudate produced by a cooked peanut in the bronchus of a child sixteen months old over a period of five days. Wheezing stopped immediately after removal of foreign body and there was no dyspnea following. Patient was discharged from hospital the next day. Chest was clear and rectal temperature 100 degrees F.

Case 32.—M. D., white girl, age nine years, swallowed a safety-pin four weeks before consulting us on May 29, 1933. After the initial symptoms of gagging and coughing, no other symptoms developed for two weeks, when the patient became hoarse and coughed occasionally. With the laryngeal mirror, the keeper of the pin could be seen in the lower part of the larynx but the point was concealed. The larynx was very red.

X-ray showed the pin in the lower part of the larynx. The patient was admitted to Johnston-Willis Hospital. The pin was removed from the larynx, but, unfortunately, was dropped in the pharynx and swallowed before it could be recovered. Immediate examination with the fluoroscope showed the pin in the stomach. It was recovered in forty-eight hours in the second stool.

Fig. 32.

Case 33.—C. M., colored female, age four years, was admitted to St. Philip's Hospital, August 21, 1933.

Her mother said she had swallowed a jack rock. Fluoroscope revealed an object in the upper part of the esophagus.

The jack rock was exposed with the esophageal speculum and removed without difficulty, three and one-half hours after being swallowed.

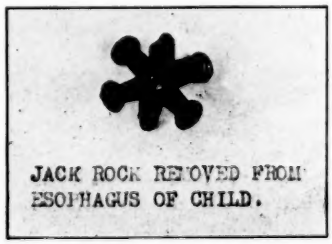

Fig. 33.

Case 34.—Mrs. C. R. V., adult, white woman. While eating rabbit, December 4, 1932, a bone hung in her throat. Examination with the laryngeal mirror showed a bone about two inches long lodged in the larynx.

The patient was admitted to Johnston-Willis Hospital where the foreign body was removed with the laryngoscope and straight forceps.

Fig. 34.

Case 35.—B. C., age six months, admitted to Memorial Hospital March 19, 1926, complaining of inability to swallow for two days. X-ray showed esophageal obstruction with barium meal in the upper third. Esophagoscopy was performed and a portion of a chicken's neck was found impacted and removed. The child had no further difficulty in swallowing and left the hospital two days later.

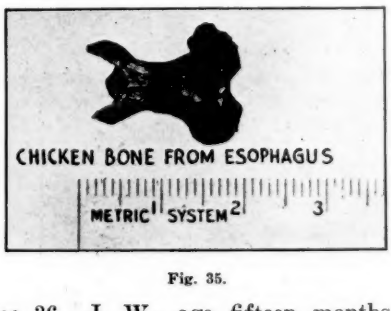

Fig. 35.

Case 36.—J. W., age fifteen months, admitted to the Johnston-Willis Hospital, August 20, 1931, with a history of inability to swallow without great difficulty for four days. The chest was clinically negative. An X-ray examination showed a metallic mass in the upper third of the esophagus, lying in the coronal plane.

Esophagoscopy was done under general anesthesia and a metal object located and removed. There was ulceration and edema present from the four days' sojourn.

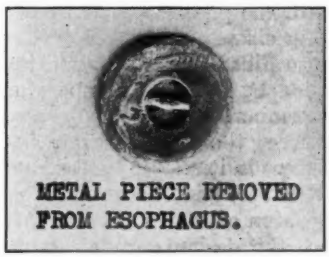

Fig. 36.

Case 37.—Mr. J. C., age fifty years, was eating chicken stew August 22, 1932, when he was suddenly conscious of a pain in his upper chest. Subsequent swallowing was difficult and painful. He consulted his family physician who suspected a foreign body and referred him for examination.

It was evident a foreign body was present, and this was confirmed by X-ray films and barium meal.

He was admitted to Johnston-Willis Hospital and esophagoscopy located a bone lodged against the esophageal wall in its upper third. The bone was removed with little difficulty and the patient discharged the third day.

Fig. 37.

Case 38.—C. A., child, age two years, refused to eat. She was thought to have sore throat and was put to bed. The child began to suffer pain, so the family physician was called. He suspected a foreign body and referred the patient to the Johnston-Willis Hospital. X-ray showed an open safety-pin in the esophagus on a level with the sterno-clavicular joint. An esophageal speculum was introduced and the pin removed.

Fig. 38.

Case 39.—Colored man, age forty years, admitted to the Retreat for the Sick Hospital. He stated he had been unable to swallow solids or liquids for three days. X-ray films indicated an obstruction about the middle third of the esophagus.

Esophagoscopy was performed and, after recovering a bolus of meat, the esophageal wall appeared thickened and constricted. The patient stated later he swallowed lye when he was a child. Evidently the partial stricture was due to this caustic.

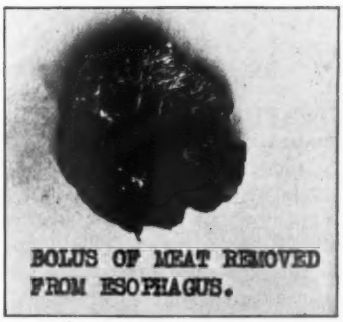

Fig. 39.

Case 40.—D. C., aged five years, admitted to Johnston-Willis Hospital May 5, 1926, complaining of pain and difficulty in swallowing for twenty-four hours.

X-ray films revealed a metallic mass simulating a coin in the upper portion of the esophagus.

Esophagoscopy was performed and a five-

Fig. 40.

cent-piece removed. The patient left the hospital the following day relieved.

Case 41.—White boy, aged three years, admitted to Johnston-Willis Hospital with a history of regurgitation of food for three days. X-ray examination was negative. Exploratory esophagoscopy revealed a button in the esophagus on the level with the sterno-clavicular junction. It was removed with the esophageal speculum, and the child discharged the following day relieved.

Fig. 41.

FEVER THERAPY IN PARESIS.*

JAMES KING, M. D., Radford, Va.

The treatment of paresis by the production of fever and the results which have been obtained creates one of the most dramatic advances in medical progress. One cannot fully appreciate the real meaning of this somewhat radical form of treatment without having seen many cases of general paralysis of the insane in the days when the disease missed a 100 per cent mortality by a fraction. Drs. Church and Peterson, in their Manual of Nervous and Mental Diseases published in 1915, state:

"The prognosis is practically always death within a short term of years. The author has never known personally of a case recovering. In our whole literature there are but a dozen cases of recovery on record. It is probably questionable if even these were genuine cases of paresis, since an error in diagnosis is not at all uncommon."[1]

Within the brief expanse of fifteen years our attitude towards dementia paralytica has witnessed a change from utter despair to hopeful expectancy.

Von Jauregg, in 1887, first proposed the treatment of paresis by the malarial or fever method. Perhaps he reasoned, as we do today, that fever is a beneficial measure of the body against invading organisms. Practically every one of the self-limiting pathological conditions is accompanied by a rise in temperature. This temperature may be either the cause of the process of cure or it may be merely an accompaniment of the process. It is worthy of note that certain classes of pathological conditions which are ordinarily not self-limiting are not accompanied by a rise in temperature except in their terminal stages.[2]

Von Jauregg thought, however, that malaria was too severe in itself for the average paretic, and until 1917 he tried the production of fever by the injection of toxins. As the latter failed to produce the desired results, Jauregg went back to his original idea of inoculating the paretic with tertian malaria.

But the idea was not entirely new. Hippocrates, Galen, Sydenham and others noted that diseases such as ague (malaria), typhus and typhoid fever would influence the course of the psychosis, thus again proving that there is nothing new under the sun.

In the summer of 1917 Von Jauregg inoculated nine cases of paresis with tertian malaria. One patient died, two were reported unchanged, three had incomplete remissions, and three had remissions, all of which were complete and had persisted up to the time of his last publication, eight and one-half years later. Other cases were treated and gave like results. Soon the reports of Von Jauregg were confirmed all over the world; from the Vienna clinic, from Hamburg, England, Denmark. In 1924, the first report was made in the United States by Lewis, of the St. Elizabeth's Hospital. And from then the number of cases treated have multiplied by the thousands.

For many reasons it is difficult to give statistical presentation of the results which have been obtained by malaria. Favorable reaction depends largely upon the degree to which the syphilitic process has advanced. A recent report in the *J. A. M. A.* by O'Leary and Welch[3] show that in 186 cases of advanced dementia paralytica, excellent results were obtained in 35 per cent and fair results in another 35 per cent. They report 249 cases of "early paresis," with excellent results obtained in 46 per cent of the cases and fair results in 35 per cent.

The average mortality during malarial treatment varies from 5 to 10 per cent.[4] This rather high death rate would not in itself be unfavorable to the continued use of malaria in view of the statistics of 1915, but there are many

*Read before the Southwestern Virginia Medical Society, at Wytheville, Va., September 15, 1933.

other objections. Malaria is a debilitating disease. The blood cells and blood pressure are markedly lowered. The patient loses weight rapidly and often there is great risk. The organism is not always available. The patient has to be hospitalized. Ten per cent of paretics have an immunity to malaria. The disease cannot always be terminated when desired. One is not always sure that the proper strain is being injected. There is no means of controlling the number of chills or the height to which the fever arises. To overcome these objections, other methods of fever production began to appear.

Fever may be produced in man by external heat, such as the hot bath, electric blanket or electric light cabinet; or by penetrating heating agents, as diathermy and the radiotherm. Of the devices thus far brought into use, diathermy has been the more satisfactory.

Successful treatment with diathermy depends on certain mechanical factors necessary to produce elevation of temperature, maintain it, and prevent burns to the patient. The prime requisites are properly constructed electrodes, a machine powerful enough to give sufficient energy, and proper insulation of the patient.

The electrodes, as here demonstrated, are large and the edges fenestrated, since the current has a tendency to concentrate along the edges. The entire back is covered by one electrode and the entire chest and abdomen by the other. The amount of current necessary varies with the thickness of the individual. Usually 3,500 to 4,000 m.a. is sufficient.

The patient is stripped, the electrodes applied to the front and back, and held tightly in place by the use of a laced jacket. Two rubber sheets and five blankets are then wrapped about the patient. The hands and feet are secured to prevent interruption of the treatment when delirium ensues. A heavy zipper bag encloses the patient entirely, except the head which protrudes through the aperture.

The current is then turned on and the milliamperes steadily advanced until within thirty minutes the first maximum is reached. Usually the temperature regulating mechanism has been broken down by this time and there will be noted a rise of perhaps one degree. The heart increases in rate, together with the respiration. Temperature, pulse and respiration are taken and recorded every fifteen minutes.

The fever curve to be desired is that of a long sustained temperature with a high plateau ranging above 103.5 degrees for eight hours.

It has been experimentally shown that temperatures of 105.8 degrees are definitely spirocheticidal. Organisms living in tissues are killed outright by this amount of heat in two hours. In producing our fever, therefore, we seek to maintain the temperature above 105.8 degrees for four hours of the eight hour period.

The current is usually turned off after the fever reaches 104 degrees. The temperature will continue to rise to 106 degrees or over. When 107 degrees is reached, the bag is loosened and the temperature allowed to fall to 106 degrees. The bag may then be closed, if desired, and the temperature will rise again. This controllable feature constitutes the greatest advantage of artificial fevers over that induced by malaria.

Temperature ranges from 107 degrees and over may seem rather dangerous to some of you. Some workers with diathermy are using temperatures of 107 degrees and 108 degrees sustained over several hours. Some state that they have maintained a temperature of 108.5 degrees in robust individuals for four hours. Such artificially induced fevers are tolerated well by the patient for the reason that the temperature is not the same process as that noted in fevers accompanying pathological conditions.

During the course of the treatment, the patient sweats profusely and complains of the sensation of warmth. Water is given in large quantities to replace that lost through sweating. A hypodermic of morphine is administered after the temperature reaches 104 degrees. Restlessness subsides and the patient often falls to sleep.

Neymann, who has done most of the pioneer work with diathermy in paresis, recommends a minimum of twenty treatments. He finds that most remissions occur after the fifteenth treatment. A case is not abandoned until fifty treatments have been administered. The treatments may be given at intervals of two or three days.

Practically the only danger in using diathermy lies in the production of burns. It is important to see that the electrodes fit snugly to the body and that any severe complaint is investigated. Since the introduction of improved electrodes, this obstacle has been largely removed.

There are few contra-indications. Aged, de-

XUM

bilitated, cardio-vascular and renal cases should be closely watched during the treatment. These conditions are distinct contra-indications to any other form of fever therapy, since the height of the fever cannot be controlled. *Perfect control is the great advantage of diathermy over other methods.*

Four hundred and forty-six cases of paresis have been reported in the literature as treated by diathermy. Summarizing all of these, 133, or 30 per cent, have been reported in an absolute state of remission; 153, or 35 per cent, have recovered sufficiently to be discharged from hospitals. These results, as you see, are practically identical with those obtained by the malarial method. As more knowledge is gained in the use of the diathermy, it is not at all unlikely that the method will show more favorable results than with malaria.[5]

We have used practically all forms of fever at Saint Albans with not sufficient cases to report by percentages. At the present time, after establishing the diagnosis by the clinical picture, blood and spinal Wassermanns and the colloidal gold test, we institute a regime as follows:

The patient is first given a short course of neoarsphenamine, if no arsenicals have been given. This is intended to improve any systemic syphilitic process that may exist. Formerly, we gave tryparsamide, grams 2.0, weekly for ten weeks, but at the present time we proceed immediately to the production of fever. The hazards of malaria previously made this the last part of the treatment, but the comparative safety of diathermy has led us to institute this form of therapy without delay.

Following a series of fever therapy, it is advisable to give a course of some arsenical. Tryparsamide is the drug of choice and the production of optic nerve changes has not been noted in our treatment of these cases. Bismuth is a very valuable drug in the after-treatment. The iodides and mercury by mouth are to be recommended after the courses of tryparsamide and bismuth. Intensive treatment for a period of not less than two years insures the patient of a more favorable prognosis. But drugs alone will not greatly alter the course of paresis. The one great hope, to my mind, lies in elevation of the body temperature, and the method of choice, for the present at least, is by diathermy.

The following cases are presented:

Case No. I.—Mr. S. S. This patient, age 35, was first seen on March 2, 1932. His wife stated that he had been forgetful for the past several months. He gradually became weak and finally had to give up his work. Formerly he was of a jolly nature, but now he appeared to always be brooding. Examination by his physician disclosed a strongly positive blood and spinal fluid Wassermann. He had been treated for three weeks prior to admission. During his sleep the patient became quite disturbed, frequently passing into excited episodes. Examination revealed an obvious mental disturbance. The expression was one of anxiety, while the insight and judgment were defective. Deterioration was of a moderate degree. The patient had Argyll-Robertson pupils, and all reflexes were exaggerated. Blood and spinal fluids were both positive with a typical paretic gold curve. The diagnosis was paresis, depressive type. R. B. C. and W. B. C. were within the limits of normal. The urine was essentially negative. The patient was placed on neoarsphenamine for a total of four doses. This was followed by twelve injections, 2.0 grams weekly, of tryparsamide. No improvement could be noted in the patient's mental condition, although the excited attacks had ceased.

Ten injections of typhoid vaccine were then given. A maximum rise of 103.5 degrees was obtained.

Following this, malarial blood was injected but there was no take. Later a new strain was obtained and the patient developed the fever. He passed through fourteen chills, the temperature rising to 106.0 as a maximum, with an average rise of 104.5 degrees. The chills ceased automatically at the end of the fourteenth paroxysm.

Five months elapsed and the patient's mental condition continued uninterruptedly. He had developed a strong suicidal tendency and made several attempts to jump from a height.

For about three weeks following the malaria he was quite lucid and continued so until a lumbar puncture was done for diagnostic purposes. This was no doubt a coincidence, but he relapsed into his former mental state.

The patient was then treated vigorously with tryparsamide and iodo-bismitol for several months. He gained in weight and his mental health was noticeably improving. He returned to his home on October 26, 1932, and has now made a complete recovery.

It is interesting to note in this case that the

spinal fluid and blood Wassermann became negative long before the clinical improvement occurred. Sixty-five per cent of those cases reported as in complete remission still have a positive serology. But these cases have been followed over a sufficient period of years to indicate that the remission is permanent and that the blood and spinal fluid do not improve concomitantly. (Case presented.)

Case No. II.—Mr. H. L., age 28, single. This patient was admitted to Saint Albans Sanatorium, January 31, 1932. The history was that he had been nervous for the preceding six months. He had lost interest in his work, as is frequently the case in early paresis. History of syphilis contracted three years ago.

Physically, he is in good condition. The typical neurological signs were not observed: there was no fixation of the pupils, nor was there any other cranial nerve involvement. The patellar reflexes were somewhat exaggerated The mental picture was that of continued well-being. Everything pleased the patient, and he was extremely cooperative. There was a lack of insight and judgment. No delusions. He offered no complaints and a diagnosis would have been difficult without the laboratory findings of a strongly positive blood and spinal fluid Wassermann. The colloidal gold curve was typically paretic. The diagnosis was paresis, type not well defined.

The patient was at first placed on mercury and iodides with bismuth intramuscularly. This was followed by 2.0 grams of tryparsamide, intravenously, for four weeks. Malarial blood was secured and the patient given 2 c.c., but there was no take. After waiting two weeks for the malaria to develop, typhoid vaccine, mixed, was used intravenously. Twelve chills were produced, with an average maximum of 103 degrees. Following this non-specific therapy, the patient received bismuth in the muscle, twice weekly, for five weeks. He was discharged and received neoarsphenamine for several months. On April 24, 1933, ten months later, the patient was readmitted and artificial fever produced by diathermy. In this case the temperature was sustained over 103.5 degrees for forty-four hours during the ten treatments, and above 105.8 degrees for thirteen and one-half hours. The amount of treatment which this patient received is insufficient, but he is being observed each month and receiving vigorous antileutic treatment at the present. His mental condition has improved, but his blood and spinal fluids remain strongly positive. We cannot say that he is in complete remission. Results from hyperpyrexia cannot be evaluated under six months but we can say that his paresis is arrested at the present time.

BIBLIOGRAPHY

1. Nervous and Mental Diseases: Church and Peterson, 1915.
2. Therapeutic Fever Produced by Diathermy: King and Cocke.
3. O'Leary and Welch: *J. A. M. A.*, Vol. 101, No. 7, p. 498.
4. Jones, Arthur C.: Reprint: Production of Therapeutic Fever by Diathermy.
5. Neymann, Clarence A.: *J. A. M. A.*, Vol. 101, No. 4, p. 301.
6. Nicoli, J. Ernest, and Fitzgerald, E. J.: *American Journal of Syphilis*, 15:496-516, October, 1931.

St. Albans Sanatorium.

DOES CIRCUMCISION IN INFANCY PROTECT AGAINST DISEASE?

ABR. L. WOLBARST, M. D., New York City.

Any human practice, like circumcision, which has survived for many thousands of years and still presents indubitable evidence of an increasing popularity, must have something more than a ritualistic or racial basis to account for its survival and popularity. We of the present day are not concerned with the origin of circumcision, which dates back long before recorded history began, nor with its mystic significance to the millions of human beings who have practiced it, both in barbarism and in civilization; but we are concerned with the remarkable fact that circumcision of male infants is being practiced on an ever-increasing scale, not as a religious rite, but solely as a recognized hygienic measure and as a preventive against serious disease in adult life.

As these beneficent results are questioned from time to time, it is the purpose of this contribution to indicate briefly the various aspects of infantile circumcision considered as an aid to personal cleanliness and the prevention of disease. The interested reader is respectfully referred to previous contributions on the subject in which it has been dealt with at greater length.[1]

1. *Circumcision Is A Great Aid to Personal Cleanliness.*—Anyone who has had occasion to work in a male genito-urinary clinic can offer personal testimony to the effect that the preputial cavity is not generally kept clean. This cavity is a blind sac, the walls and floor

of which constantly secrete smegma, which Dorland defines as a "thick, cheesy, ill-smelling secretion found under the prepuce and around the labia minora." Unless the cavity is thoroughly cleansed several times daily, this and other secretions accumulate, with results that are disgusting to sensitive olfactories. Very few uncircumcised men pay even casual attention to the hygiene of the prepuce, and this is true even of men who are familiar with soap and water. Moreover, a certain degree of balanitis is present in practically all uncircumcised men and in the unclean in particular. Many men go through life without ever taking the trouble to retract the foreskin and cleanse it; adhesions thus form, the urine gathers and decomposes in the rich, fetid soil offered by the ever-present secretions. Balanoposthitis is a common result, but it cannot occur in the circumcised. As Keyes[2] says, "although Hebrews are predisposed to diabetes, circumcision saves them from this complication."

2. *Circumcision Obviously Is A Prophylactic Against Phimosis and Paraphimosis and Their Sequelae.*—This seems to be a superfluous statement, but those who oppose routine circumcision do not seem to recognize the fact. They are quite agreed that phimosis is the cause of much trouble and disease in later life, but they prefer to take the chance, and, if anything happens, they are strong for circumcision after the damage has been done. If the ideal toward which we are working is preventive medicine, it would seem that this is a splendid opportunity for the concrete expression of that ideal.

The list of pathologic conditions for which the long, tight foreskin is held responsible, is a long one, too long to be considered here in detail. Early circumcision prevents all of them, because they cannot occur in the absence of a prepuce. Tourneux,[3] discussing congenital phimosis, lists all the many conditions that may arise, and while he does not advocate early circumcision, he concedes that the procedure is a measure of "great hygienic value." Authorities are agreed that phimosis in the elderly is potentially cancerous; in the young, it predisposes to masturbation and other reflex manifestations.

It may be added, as an important historical fact, which has changed the character of world history, that the phimosis of Louis XVI of France, and his consequent impotence which was relieved by operation, only seven years after his marriage, is held to be largely responsible for the events which led to the Revolution and the execution of the King and his Queen, Marie Antoinette.

Paraphimosis, also, cannot exist after circumcision. Schenck,[4] speaking of operative measures for the immediate relief of this condition, says that "after the lesions have healed, an acceptable circumcision can be done under local anesthesia by amputating the flaps at their bases." Which sounds very much like locking the barn-door after the cow has been stolen. And very recently, Carver[51] reported a case of paraphimosis in a man sixty-seven years old, accompanied by gangrene and retention of urine. The man was almost moribund. Amputation was performed, but death occurred the following day.

The preputial cavity may be the nidus for the accumulation of stones. Zuckerkandl[5] reported thirty cases of preputial calculus, and Velpeau (quoted by him) found a stone in the preputial cavity which weighed 130 gm. Lewin found from thirty-eight to seventy stones in eight cases, Lloyd found eleven, Corney found twenty-two, and Vincent found 200 small stones in one case.[5] Lefevre[6] extracted by means of circumcision a calculus the size of an egg from the preputial cavity of a man aged fifty-six. The phimosis was congenital. Although the penis itself was about normal in size, the glans was no larger than that of a six year old boy. (It may be interpolated here that I have seen innumerable cases of full grown men and youths with phimosis in whom the glans was extraordinarily small, but as soon as the circumcision was done and the prepuce removed, the glans very quickly took on a sudden development and attained normal size). Some years ago, a youth of seventeen was brought to me because of persistent, uncontrollable masturbation. He was said to be a "nervous case." The boy insisted there was a constant sense of irritation in the penis which he could relieve only by manual manipulation. Not one of the several physicians who were consulted took the trouble to examine the penis, but they were quite agreed that the boy ought to be sent to some institution for the mentally diseased. My examination revealed a tight unretractible foreskin with hard masses like marbles in the preputial cavity. Circumcision disclosed seventeen small stones and a severe balanitis. The boy made an im-

mediate recovery and was thus spared the experience of an institutional commitment.

3. *Circumcision Protects Against Syphilis and Chancroid.*—Circumcision does not protect against gonorrhea, but it does protect against syphilis and chancroid. The reasons are obvious. Long ago[5] Hutchinson, Fournier, Clerc and others pointed out that the foreskin is the favorite site for about 75 per cent of primary chancres. In 1854, Hutchinson[7] observed that among out-patients in the Jews' quarter in London, the occurrence of syphilis was in the proportion of one Jew to forty-five non-Jews. In a study of 1,500 venereal cases,[8] I found that of 750 circumcised men (taken alphabetically from my office records), 73 per cent sought treatment for gonorrhea and 27 per cent for syphilis or chancroid; whereas of the same number of uncircumcised men, 56 per cent had gonorrhea and 44 per cent had syphilis or chancroid. These data *per se* may not prove anything, but they are supported by the views of practically all urologists and venereologists. In a previous contribution[9] I quoted at length the views of leading American authorities, and they were practically unanimous in the opinion that syphilis and chancroid are much more common in the uncircumcised. In more than 1,000 cases of chancroid, D. P. Ray has not observed a single case in a Jew.[52]

To these views may be added the statement of Vedder[10]: "On theoretical grounds there seems to be sufficient reason to recommend circumcision as a preventive of syphilitic infection, and the available statistics indicate that when circumcision is generally practiced, this procedure does actually effect a reduction in the incidence of syphilis." And in the latest edition of Keyes' classic work, he says[11]: "Circumcision in infancy will leave the patient less subject to venereal disease and sexual irritability in later years and guarantee him against epithelioma of the penis. The operation has of late years attained great popularity." The presence of a foreskin unquestionably offers a fertile field for the implantation and growth of venereal and non-venereal ulcers of every kind. These and even more serious lesions (cancer) often remain undiscovered for long periods, hidden in a mass of foul and necrotic material.[12]

4. *Circumcision Is A Prophylactic Against Cancer.*—There is indisputable evidence that the balanic secretions retained in the preputial cavity favor the development of warts and cancer. It must be obvious in the light of our knowledge of cancer, that the constant friction and irritation occasioned by the presence of a foreskin, even though it can be retracted, can and does act as an exciting cause. This is especially true among the unclean and hygienically careless. Owing to limitation of space, it is impossible to present all the available evidence bearing on this subject.* I shall mention but a few data with references to additional material. In 1814, Hey, in England, and Roux, in France,[13] called attention to the intimate relationship between penis cancer and phimosis. Since then, many writers on cancer have emphasized this connection and its bearing on circumcision. Barney[14] reported 100 cases of penis cancer; Barringer and Dean[15] thirty-six cases; Dean[16] seventy-five cases; Schreiner[17] sixty cases; Shivers[18] sixty-two cases; Howze[19] seventeen cases; Sutherland[20] seventy-two cases, and Megaw[21] sixty-two cases—all in uncircumcised men.

The fact that penis cancer has never been known to occur in a circumcised Jew, has been repeatedly stated by Da Costa,[22] Chetwood,[23] Waring,[24] Watson and Cunningham,[25] Lowsley and Kirwin,[26] Sir John Thomson Walker,[27] Eisendrath and Rolnick,[28] Legueu and Michon,[29] Morton[30] and K. M. Walker.[31]

In a recent article in *The Lancet*,[12] London, I published a total of 2,484 cases of penis cancer, of which 1,103 were reported by American hospitals for a five year period—all in uncircumcised men. Twelve hundred additional cases were reported from British India, 1,169 in uncircumcised Hindus and but twenty-four in Mohammedans, who ritually circumcise their boys. The striking occurrence of but 2 per cent of cancer in Mohammedans is still further accentuated by the fact that the average Mohammedan population in the hospitals reporting was 21.19 per cent of the total.

It may be asked why penis cancer develops in Mohammedans to the extent of 2 per cent and not at all in Jews, despite the fact that both groups practice ritual circumcision. The answer is simple: First, because Mohammedans perform the rite in the tenth year or later, whereas Jews circumcise on the eighth day of life; secondly, Mohammedans, according to Mantegazza[32] "cut only a very small part off, so that in a full grown man it is difficult to tell immediately whether he is circumcised

*See articles on cancer in **The Lancet**, January 16, 1932, and in **Cancer**, July, 1926, in which the subject is dealt with at length.

or not." It is therefore evidence that the Mohammedan circumcision is partial and not complete, as is the case in the Jewish circumcision. Furthermore, even if the Mohammedan circumcision were complete, cancer would nevertheless develop because of the fact that between birth and circumcision, a period of ten years or more, the irritating factors in the preputial cavity may be sufficient so to modify the character of the tissues as to constitute the necessary precancerous foundation for the later development of cancer—a condition which does not and cannot obtain in Jewish children circumcised in early infancy. This explanation is supported by actual cases of cancer on the inner surface of the prepuce in boys and young men with congenital phimosis reported by Stein,[33] Dormanns,[34] and Chavannaz and Magendie.[35]

The occurrence of cancer in men already circumcised is also thus explained; in all of these cases it will be found that the men were circumcised long after birth, usually for some abnormal condition which *per se* may have afforded the precancerous foundation an opportunity to develop before the circumcision was performed. Many such cases have been reported, but the literature has yet to show a single case of authenticated cancer in a man who was circumcised in early infancy. That is the crucial test.

I did report one case[12] of cancer in a Jew, but he was uncircumcised; this would indicate, if it does not prove, that the recognized immunity of Jews against penis cancer is not racial in character, as some would have us believe, but is due entirely to the absence of the foreskin from the earliest days of life. In other words, it may be accepted as axiomatic that where there is no foreskin there will probably be no cancer. This statement is supported by indisputable facts. It is, furthermore, supported by the editorial comment in *The Lancet*[12] which says that the facts presented establish "beyond doubt" that those circumcised early in life enjoy complete freedom from penis cancer and that this freedom is due to the greater cleanliness made possible by circumcision.

Those who oppose routine circumcision stress the point that the prepuce generally can be retracted and thus kept clean and free from pathologic consequences, and that circumcision is therefore unnecessary except in unretractable cases. But the irresistible logic of facts teaches us that penis cancer does develop in the presence of a retractable foreskin. Young,[36] Lewis[37] and others have reported cancer in cases with a retractable foreskin, in which the precancerous lesions in the preputial cavity were noted and recorded. In many of these cases, leukoplakia precedes the cancer. Rosenblum[38] reported cases of leukoplakia of the glans with partial phimosis. He quotes Fukai, of Japan, as reporting six cases of leukoplakia involving the glans and prepuce. Benedek[39] reported three cases of phimosis with leukokeratosis, with the observation that he had never observed this condition in circumcised individuals.

It may be added that penis cancer constitutes between 2 and 3 per cent of all cancer in males in this country, and from 10 to 15 per cent in the Orient and Far East. At least 225 deaths occur annually in the United States from penis cancer, according to the U. S. Census Reports, all of which probably can be prevented by early circumcision of all males.

5. *Circumcision Is A Prophylactic Against Masturbation, Convulsions and Other Reflex Irritative Phenomena.*—It may be countered at once that the circumcised also masturbate, have convulsions and so forth. That is true. But there are cases which are distinctly caused by the presence of a foreskin and which are cured by circumcision. Gowers, the famous neurologist, advocated circumcision[40] for the prevention and cure of certain types of convulsions in children, and in epilepsy. He cites cases cured by circumcision. A. H. Baker[41] reported a case of epileptiform convulsions in a child of five, which were cured by circumcision. Lydston[42] and Moll[43] also emphasized the importance of preventing local irritation leading to masturbation by means of circumcision. In a large series of cases of epilepsy characterized by convulsions without apparent precipitating cause, Block[44] concluded that an adherent foreskin was an important factor in the production of the convulsions. Children mentally backward often show surprising mental progress after circumcision or even after merely freeing adhesions by traction or a probe, provided this separation can be maintained indefinitely. It is interesting to note that an adherent prepuce was found in 11 per cent of his cases. The point need not be labored that all of these conditions which can be improved by circumcision can be prevented, which is far more to the point.

6. *Circumcision Is A Prophylactic Against Local Complications in Venereal Disease.*—In the presence of a tight foreskin, balanitis with extensive ulceration and necrosis of the glans and foreskin may supervene. Suppurating adenitis (bubo) is far more common in chancroid and gonorrhea when a foreskin is present to dam the natural drainage of the pathologic secretions. The dorsal incision, so often necessary to liberate the accumulated debris and expose the original lesion to view, is only a poor substitute for circumcision.

7. *Circumcision Is A 100 Per Cent Prophylactic Against the "Fourth Venereal Disease."*—Obviously without a foreskin and preputial cavity this form of infection cannot occur. The etiologic factors are a tight foreskin which excludes the air, joined with a symbiosis of an anaerobic vibrio and a spirochete. Slitting the foreskin and admitting the air is the prime indication for treatment. It was first described by Battaile and Berdal[45] and later confirmed by Scherber and Müller.[46] Levy-Bing and Gerbay[47] also reported cases of ulcerative balanitis. This condition corresponds in great measure with "erosive and gangrenous balanitis," described by Corbus and Harris.[48]. They state that "as a prophylactic measure the practice of circumcision should be encouraged."

8. *Circumcision Is A Prophylactic Against Tropical Bladder Infection.*—Sir John Thomson Walker[49] recommends circumcision of boys for the prevention of infection with Bilharzia hematobia, and Allen,[50] who practiced for many years in Natal, Africa, made a similar recommendation. It appears that the foreskin has some material influence in inviting the entrance of the bilharzia into the urethra while the victim is bathing in infected waters.

In conclusion, it is worthy of note that the practice of circumcising male infants is rapidly growing because of the demand of parents, despite the veiled resistance of certain medical men which is based on emotional rather than scientific grounds. In a number of American non-Jewish hospitals, it is the invariable rule to circumcise all male infants born there before mother and child leave the hospital. If this rule were adopted universally, most of the conditions herein mentioned would be avoided and a cleaner and healthier race of men would result.

Summary

Circumcision in infancy is a most valuable hygienic measure for the following reasons:

1. It is a great aid to personal cleanliness.
2. It is a prophylactic against phimosis and paraphimosis and their sequelae.
3. It is a strong prophylactic against syphilis and chancroid.
4. It is a prophylactic against venereal warts and cancers.
5. It is a prophylactic against masturbation, convulsions and other reflex irritative phenomena.
6. It is a prophylactic against local complications in venereal disease.
7. It is a 100 per cent prophylactic against the "fourth venereal disease."
8. It is a prophylactic against tropical bladder and urethral infection.

References

1. Wolbarst, A. L.: *J. A. M. A.*, 62:92, January 10, 1914.
   Am. Med., 32:23, January, 1926.
   Cancer, 3, 301, July, 1926.
   The Lancet, 222:150, January 16, 1932.
2. Keyes, E. L.: "Diseases of the Genito-Urinary Organs." D. Appleton & Co., New York, 1910, page 685.
3. Tourneux, M. J. P.: *Concours Med.*, 52:2103, July, 1930.
4. Schenck, G. F.: *Am. Jour. of Surg.*, 8:329, February, 1930.
5. Alexander, G.: "Die Hygienische Bedeutung der Beschneidung," Breslau, 1902.
6. Lefevre, W.: *Bull. Soc. franc. d'Urol.*, Paris, 255, December 8, 1924.
7. Remondino, P. C.: "History of Circumcision." F. A. Davis Co., Philadelphia, 1900, page 192.
8. Wolbarst, A. L.: *Am. Med.*, 32:23, January, 1926.
9. Wolbarst, A. L.: *J. A. M. A.*, 62:92, January 10, 1914.
10. Vedder, quoted by Schamberg, J. F., and Wright, C. S.: "Treatment of Syphilis." D. Appleton & Co., New York, 1932, page 390.
11. Keyes, E. L.: "Urology." D. Appleton & Co., New York, 1928, page 637.
12. Wolbarst, A. L.: *The Lancet*, 222, 150, January 16, 1932.
13. Remondino, P. C.: *loc. cit.*, page 227.
14. Barney, J. D.: *Ann. Surg.*, 46:890, December, 1907.
15. Barringer, B. S., and Dean, A. L.: *J. Urol.*, May, 1894.
16. Dean. A. L.: *Arch. Surg.*, 18:1273, 1929.
17. Schreiner, B. F.: *Radiology*, 13:353, 1929.
18. Shivers, C. H. deT.: *J. A. M. A.*, 89:446, 1927.
19. Howze, C. P.: *Va. Med. Monthly*, 51:550, 1925.
20. Sutherland, M.: *Arch. Middlesex Hosp'l*, Vol. 3, 1904.
21. Megaw, H. A.: *Indian Med. Gazette*, 40:163, 1905.
22. Da Costa, J. C.: "Modern Surgery." W. B. Saunders Co., Philadelphia, 1919, 8th Ed., page 1521.
23. Chetwood, C. H.: "Practice of Urology." Wm. Wood & Co., New York, 1927, 4th Ed., page 200.

XUM

24. Waring, B. C.: "Surgical Treatment of Malignant Disease," London, 1928.
25. Watson, F. S., and Cunningham, J. H.: "Genito-Urinary Surgery." Lea and Febiger, Philadelphia, 1908, Vol. 1, page 51.
26. Lowsley, O. S., and Kirwin, T. J.: "Urology." Lea and Febiger, Philadelphia, 1926, page 159.
27. Walker, Sir John Thomson: "Genito-Urinary Surgery." Funk and Wagnalls, New York, 1914, page 852.
28. Eisendrath, D. N., and Rolnick, H. C.: "Urology." J. B. Lippincott Co., Philadelphia, 1928, page 295.
29. Legueu, F., and Michon, E.: "Maladies de la Vessie Et du Pënis." J. B. Bailliere et Fils, Paris, 1912, page 315.
30. Morton, H. H.: "Genito-Urinary Diseases and Syphilis." Phys. and Surg. Book Co., New York, 1924, page 83.
31. Walker, K. M.: "Diseases of the Male Generative Organs." Henry Frowde and Hodder & Stoughton. London, 1923, page 186.
32. Mantegazza, P.: "Sexual Relations of Mankind." Anthropological Press, New York, 1932, page 101.
33. Stein, R. O.: *Derm. Woch.*, 46:1853, 1929.
34. Dormanns, E. A.: Zeit. f. Krebsforschung, 29: 435, 1929.
35. Chavannaz, J., and Magendie, J.: *Jour med. Bordeaux*, 104:670, 1927.
36. Young, H. H.: "Practice of Urology." W. B. Saunders Co., Philadelphia, 1926, Vol. 1, page 704.
37. Lewis, L. G.: *J. Urol.*, 26:297, 1931.
38. Rosenblum, P. S.: *Urol. and Cut. Rev.*, 35:589, September, 1931.
39. Benedek, T.: *Derm. Woch.*, 81:1135, 1925.
40. Gowers, W.: "Epilepsy and Other Convulsive Diseases." Philadelphia, 1885, page 147.
41. Baker, A. H.: *Med. Era.* January, 1910.
42. Lydston, G. F.: "Sex Hygiene for the Male," Riverton Press, Chicago, 1912.
43. Moll, A.: "The Sexual Life of the Child." Macmillan, New York. 1912, page 307.
44. Block, E. B.: *J. M. A., Georgia*, 13, 473, November, 1924.
45. Bataille, G., and Berdal, A.: *Med. Moderne*, 2, 1891, page 340.
46. Scherber, U., and Müller, F.: *Arch. f. Dermat. und Syph.*, 77; 1905, page 77.
47. Levy-Bing, E., and Gerbay, A.: *Ann. d. mal. ven.*, Paris, 19:807, November, 1924.
48. Corbus, B. C., and Harris, J. H.: *J. A. M. A.*, 52:1474, May 8, 1909.
49. Walker, Sir J. T.: *loc. cit.*, page 451.
50. Allen, J. F.: *The Lancet*, London, May 8, 1909.
51. Carver, James: *Brit. J. Urol.*, December, 1933, page 383.
52. Ray, D. P. Personal communication, March 26, 1932.

114 East 61st Street.

"Thank God every morning when you get up that you have something to do which must be done, whether you like it or not. Being forced to work, and forced to do your best, will breed in you temperance, self control, diligence, strength of will, content and a hundred virtues which the idle will never know."—*Kingsley.*

INFLAMMATORY TUMORS OF THE SMALL INTESTINE—WITH CASE REPORT.*

CARRINGTON WILLIAMS, M. D., Richmond, Va.
McGuire Clinic.

Inflammatory masses have been found in all parts of the gastro-intestinal tract. Many of these masses are the results of definite lesions or specific organisms, and while closely related to the subject of this discussion, they will only be mentioned briefly.

Chronic peptic ulcer in the region of the pylorus not infrequently is the portal of entry for infection of low grade which results in an inflammatory mass. This mass may be indistinguishable from a malignant growth, and when it is not removed, its true nature can only be decided by the recovery of the patient after a palliative gastroenterostomy has been done.

In the small bowel similar masses have been reported following typhoid ulceration of the ileum. Diverticula of the colon are also at times the seat of long standing low grade inflammation which, as a result of the fibrous tissue reaction, may result in a large mass.

The specific organisms which can create an inflammatory mass are the spirochaeta pallidum, tubercle bacillus and the amoeba histolytica.

The gummatous lesions of syphilis are located in the pyloric end of the stomach and in the colon, though rarely the small intestine may also be involved. These lesions have been considered very rare, but in recent years a number of cases have been reported. The syphilitic origin of these lesions has been in some doubt until the recovery of the spirochaeta from such a lesion by Morgan and Harris[1] last year.

On the surgical gastrointestinal service at the Medical College of Virginia in the last three years we have had six cases of obstructive gummatous lesions of the stomach and one of the colon. These patients were not improved by antiluetic treatment and all came to operation. The microscopic picture is that of an intense fibrosis, particularly about the blood vessels, where there are also collections of lymphocytes and endothelial cells with typical giant cell formation.

A number of cases of tuberculomata have been reported, most of them in the colon, but

*From the Gastro-Intestinal Service of the Hospital Division, Medical College of Virginia.
Upon author's request because of lateness of hour, read by title at the sixty-fourth annual meeting of the Medical Society of Virginia, in Lynchburg, October 21-23, 1933.

Moschowitz and Wilensky[2] suggest that many of them are not tuberculosis but of the nature of the non-specific granuloma. They base their assertion on the failure to find the tubercle bacillus and the absence of the typical tubercle in many of them.

Gunn and Howard[3] reported three cases of inflammatory masses in the colon, the result of amoebic ulceration. Motile amoebae were not found in all of these cases, and where they are not found there must be some doubt of the impression gained by examination of the fixed tissues.

Non-specific granuloma of the intestine was first reported by Braun in 1908 and a number of cases have since been recorded. These lesions are entirely inflammatory and made up of fibrous tissue in various stages of development. The entire mass has the appearance of a new growth and its true nature is often not suspected until it is submitted to microscopic examination. The infection which results in such a tissue reaction is the same in the intestinal tract as in other parts of the body; it is subacute or chronic, and the organisms are of low virulence. The portal of entry into the intestinal wall is through a break in the mucous membrane in an ulcer or an area traumatized by a blow or an injury by a sharp object in the lumen of the gut such as a bone or pin. The infection may gain entrance by continuity of tissue as the cecum from an inflamed appendix. In 1925[4] I reported a massive appendix made up of inflammatory tissue. There were numerous large lymph nodes in the meso-appendix and its appearance was that of a new growth. The thickened wall extended into the cecum and involved the ileo-cecal valve. The cause of this unusual inflammatory reaction was not discovered.

A number of authors attribute the mass in the cecum to a preceding appendicitis, and such is certainly the apparent cause in some cases. Other colon masses have been attributed to dysentery and other colon infections. Moschowitz and Wilensky[2] quote a number of cases attributed to foreign bodies such as silk used on the cecum in removing the appendix (also Mock[5]) bones, cherry seed and pins. They concluded, however, that in most cases it is impossible to discover the cause of the infection.

The gross appearance of these masses is much the same as a malignant growth. When one remembers that often much of the malignant mass is due to secondary infection this is easily understood. The surface is usually smooth and congested and the mass is very hard. Microscopically inflammatory fibrous tissue is seen in various stages of development. Frequently large giant cells are present, having the appearance more of the foreign body giant cell than of any other variety. There is often an abundance of lymphoid cells, but the tubercle arrangement is absent. The reported cases have occurred largely in the cecum, though there are a smaller number of the ileum.

Aside from vague pain, there are no early characteristic symptoms. They later may present a palpable mass or cause obstruction of the bowel and come to operation for relief. A pre-operative diagnosis is rarely made and there is much doubt until it is seen under the microscope or until after a presumed palliative operation the patient recovers and remains well. Coffen[6] reported a case in which there were two recurrences requiring three resections of the ileum. Moschowitz and Wilensky[2] also reported a case of recurrence.

The problem presented to the operator by such a mass is a puzzling one. Where the obstruction to the lumen is marked, particularly in the small bowel, resection is definitely indicated. In the colon some preliminary or palliative operation may result in a subsidence of the mass. Biopsy and section is of little help, because, as noted above, a malignant growth in the intestinal tract is often surrounded by inflammatory tissue. It often happens that resection is little or no more formidable than a palliative procedure, and in such cases and indeed in most others where there is obstruction, resection should be done.

Case Reports

Case I.—I. W., colored, male, age 41 years (St. P., No. 3945).

This patient came to St. Philip Hospital on account of lumbar pain and cramp-like abdominal pain. He had not been well for about three years, but had been able to work until four weeks before admission. During these years of poor health he has had increasing cramp-like abdominal pain coming on very soon after eating. He has lost weight steadily, but attributes this to the very limited diet which he has allowed himself. For four weeks the pains have been more severe and he has had aching in the lumbar region. During this time he has had diarrhea with fresh blood and

mucus in the stools. He has had an inguinal hernia on the right side for many years which has grown considerably larger recently.

Physical examination revealed a man appearing severelly ill who had lost a considerable amount of weight. The skin was loose and dry. The abdomen was slightly distended and showed a soft mass about the size of an orange in the right lower quadrant where there was some tenderness. There was a large indirect inguinal hernia on the right side which was easily reducible. The reflexes were normal. The remainder of the physical examination was unimportant.

Laboratory Examinations: The blood showed a moderate secondary anemia, negative Wassermann, normal non-protein nitrogen, and low (60 mg.) sugar. X-ray gastro-intestinal examination, including a barium enema, failed to show a lesion.

Fig. 1.—Case I. The loop of ileum showing ulcerated area with thick wall and the large mesentery with lymph nodes.

During three days in the hospital while these examinations were being made he complained of more pain and the abdomen became more distended. It was thought that the mass was causing obstruction to the small bowel in spite of the normal progress of the barium meal. Operation was advised. On opening the abdomen the mass was found to be located in the terminal ileum and its mesentery. It consisted of six inches of thickened bowel at the distal portion of which was a hard mass. The mesentery was very thick and contained a number of large firm lymphnodes. The whole mass was congested and edematous. The lumen at the site of the greatest thickness was almost completely obstructed. This area of bowel and the involved mesentery was resected, an end to end anastamosis done and an enterostomy made above.

The convalescence was quite uneventful until the day planned for discharge when the inguinal hernia became strangulated. This was operated upon. The terminal ileum, including the site of the anastomosis, was in the sac, and except for the congestion and edema incident to the strangulation, it was normal.

The report on the tissue examination by Dr. Pusch was as follows:

Gross Description: A segment of small intestine, 28 cm. long, with mesentery attached. The greatest width of the mesentery is 6½ cm. and its thickness is 1½ cm. the increased thickness being due to fat, edema and enlarged indurated lymph glands. The intestine has a diameter of 3½ cm. at one end while 9 cm. from the opposite extremity the diameter is 6 cm. The serosa of the wider portion constitutes an indurated, smooth, light band nearly encircling the specimen, 2 to 4½ cm. wide and about 3 mm. thick. Elsewhere the serosa is hyperemic and partly covered with fibrinous exudate. At the site of the indurated serosal band the lumen is nearly obstructed by a thick granulation tissue induration of its wall constricting the circumference of the lumen to 2½ cm. At the site of this constriction the mucosa presents several ulcerations, chiefly linear, 1 to 2½ cm. in diameter, which form the orifices of communicating sinus tracts lined by necrotic tissue ramifying in the indurated and thickened wall. These channels effect a recanalization around the obstruction. Above the constriction the mucosa is a purplish-red in color, and diffusely granular with the wall of this portion thick and edematous. An occasional linear ulcer is embraced here also. Below the constriction the mucosa is grayish-pink. This portion is essentially normal, except for a moderately edematous wall. Wedged into the ulcerations at the constriction and distributed throughout the lumen above, are many shell-like fragments, a piece of chicken bone, a few seeds and fragmented fecal concre

tions. Some portions suggest eggshells. Short stiff hairs are also found.

Microscopic Description: The ulcer margins and the ramifying intramural tracts are lined by a necrotic debris bordered by dense lymphocytic and histiocytic infiltrations supported by fibroblastic proliferations and vascular endothelial hyperplasia. The tracts involve submucosa, musculature and serosa. The dense granulation tissue induration about them embraces focal mononuclear cell aggregations among which plasm cells are conspicuous. Polymorphonuclear leucocytes occur in some areas. Focal occurrence of diphtheritic membrane contributes the granular appearance of the mucosa above the obstruction. Inflammatory response of a character similar to that at the site of obstruction is seen in this portion. An occasional ameba is recognizable; the poor state of preservation of the specimen renders the identification of many others indefinite.

Pathological Diagnosis: Amoebic granuloma of ileum.

Following this report, repeated proctoscopic examinations with bedside microscopic examinations of the intestinal contents were made but no amoeba could be found. There was a shallow ulcer in the rectum, but it did not have the appearance of amoebic origin. This

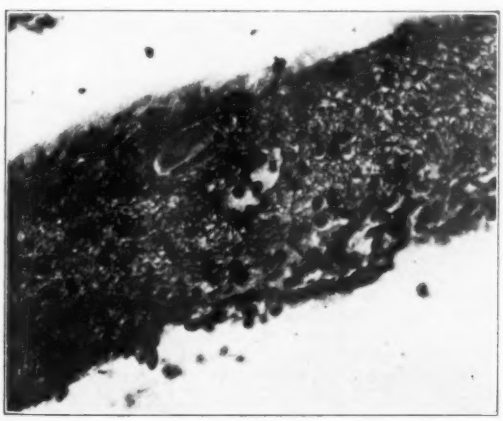

Fig. 2.—Case I. Photomicrograph of surface of ulcer showing amoeba.

patient was examined nine months after operation and was found to have gained between thirty and forty pounds in weight, and to have been able to do hard manual labor for several months. He has from two to three bowel movements a day and the stools are well formed without blood or mucus. He has occasionally slight abdominal pain. His appetite and digestion have been perfectly normal.

Case II.—R. B., white, male, age 35 (Mem., No. 6701) entered Memorial Hospital on November 23, 1932, complaining of abdominal pain and vomiting. He was operated on twenty-two years ago for acute appendicitis and had a ventral hernia. He remained well until five months ago when he had severe abdominal pain and a mass in the ventral hernia. He entered the hospital and was operated upon for this strangulated hernia. At operation only omentum was in the sac. It was noted at this time that there was a reducible left inguinal hernia. He returns to the hospital now with the history of severe cramp-like abdominal pain which had come at frequent intervals since his last admission. This pain has been accompanied by nausea and vomiting and would last about an hour. During the recent attacks the vomitus has been very foul and he has noted loops of distended bowel presenting under the abdominal wall. He has eaten very little on account of the tendency of food to start the pain and vomiting and has lost fifty pounds in weight. His bowels have moved daily and a good stool resulted from an enema taken a few hours before admission.

Examination reveals a man severely ill. The abdomen was quite distended and distinct loops of bowel could be seen. It was obvious that he had intestinal obstruction.

Laboratory Examination: The blood showed moderate anemia (65 per cent), slight leucocytosis (W. B. C. 10,600, polys 68 per cent) and negative Wassermann. The urinalysis was negative.

At operation (by Dr. I. A. Bigger) the small bowel was found to be tremendously distended. At the end of this distended gut was found an area of marked thickening of the wall and almost complete obliteration of the lumen. This area had the appearance of inflammatory tissue but suggested malignancy. The area of bowel containing this mass was resected and a lateral anastomosis done.

The report on the tissue examination by Dr. Pusch was as follows:

Gross Description: A segment of small intestine 10 cm. long. Two and a half cm. from the distal extremity of specimen occurs an annular induration of the wall produced by a pinkish white, firm, essentially intramural mass, 1½ cm. wide and 1 cm. thick. This includes a few small areas of necrosis with cavi-

XUM

tation. The circumference of the lumen at this constriction is 1½ cm. The overlying mucosa is superficially ulcerated. Distal to the growth the wall is essentially normal and has a circumference of 5 cm., while proximal to the constriction the circumference is 9½ cm., the wall diffusely indurated and thickened, and the mucosal surface hemorrhagic and partly covered with plaques of hemorrhagic necrotic debris.

Microscopic Description: The annular mass is composed of granulation tissue embracing bulky masses of lymphocytes and capillaries presenting conspicuous endothelial hyperplasia. There are a few small abscesses. The structure is compatible with response to syphilitic infection of which, however, areas of suppuration are not characteristic. Non-specific chronic inflammatory response in lymph node.

Pathological Diagnosis: Chronic inflammatory granuloma.

Discussion

These cases represent granulomas of the small bowel of specific and non-specific origin. The first showed amoebae in the submucosa and exudate, and as is characteristic of the amoebic granuloma, the fibrous tissue reaction was not so marked as in those of bacterial origin. There was no history suggestive of amoebic dysentery, except for diarrhea of four weeks duration, much too short a time to account for the formation of this lesion. Examination of stools failed to reveal amoebae. so there must remain some doubt of the amoebic origin. The second case is typical of the non-specific granuloma except for the absence of giant cells.

It is interesting to note that both these cases had rather large inguinal hernias, and the second one a ventral hernia also. It is possible that the bowel may have repeatedly become incarcerated in the sac of the hernia and that this repeated irritation resulted in the granuloma.

The severe cramp-like abdominal pain brought on by food was the most prominent symptom in each case. As the obstruction became more nearly complete, abdominal distention and vomiting occurred.

There was no combination of symptoms or signs to suggest the correct diagnosis before operation, and, indeed, with the masses exposed and in one case with frozen section microscopic examination of a regional lymph node reported inflammatory, the possibility of malignancy was still great. Short circuiting operations will doubtless cure these lesions but such a procedure in the small intestine is little less formidable than resection and anastomosis, while the latter certainly gives a more desirable result.

Conclusions

Tumor-like masses due to infection sometimes of known origin, at others unknown, may occur in any part of the gastro-intestinal tract. In the small intestine they are rare, but a few cases have been reported. Here the lesions present localizing symptoms late in their course and are rarely diagnosed.

At operation the picture is confusing and they are usually resected because of the appearance of malignancy or on account of intestinal obstruction. They are unusual lesions, though the number reported in recent years makes it clear that they are not so very rare. It seems certain that many cases reported as tuberculomata are in reality non-specific granulomata, and perhaps, some cases of "cured" cancer are actually cured of inflammatory lesions.

Bibliography

1. Harris, S., Jr., and Morgan, H. J.: Isolation of Spirochaeta Pallida from the Lesion of Gastric Syphilis. *Jour. A. M. A.*, 99:1405; 1932.
2. Moschowitz, E., and Wilensky, A. O.: Non-Specific Granuloma of the Small Intestine. *Amer. Jour. Med. Sc.*, 173:374; 1927.
   Also *idem Amer. Jour. Med. Sc.*, 164:48; 1923.
3. Gunn, H., and Howard, N. J.: Amebic Granulomas of the Large Bowel. *Jour. A. M. A.*, 97:166; 1931.
4. Williams, C.: Gross Enlargement of the Vermiform Appendix. *Va. Med. Mo.*, 52:569; 1925.
5. Mock, H. E.: Infective Granuloma. *Surg., Gyn. & Obs.*, LII:672; 1931.
6. Coffen, T. H.: Non-Specific Granuloma of the Intestine Causing Intestinal Obstruction. *Jour. A. M. A.*, 85:1303; 1925.
7. Gordon, D.: Non-Specific Granuloma of the Ileum. *Ann. Surg.*, XCVII:130; 1933.
8. Golob, M.: Infectious Granuloma of the Intestine. *Med. Jour. & Record*, 135:390; 1932.

1000 *West Grace Street.*

Discussion*

Dr. Harry J. Warthen, Richmond: Dr. Williams has covered the symptomatology and treatment of these unusual inflammatory conditions so fully that I will attempt to bring out only a few points with regard to the incidence, etiology and pathology.

Although this condition has been recognized as a definite clinical entity since 1908, when Braun, of Germany, first called attention to it, very little has been written in this country on the subject. During the past decade a few articles have appeared in our literature, but these have dealt chiefly with granulomas of the large intestine, many of which were

suspected or definitely proven to be of specific origin. I have been unable to find any reference to non-specific granulomas of the small bowel in any of the usual text-books or systems of medicine or surgery. A review of hospital records is also misleading as to the incidence, as these cases are likely to be listed under some other heading, usually intestinal obstruction. The variety of names which have been given to this condition has also added to the confusion. It has been variously called granuloma, infective granuloma, chronic productive inflammation, inflammatory hyperplasia, infectious granuloma, pseudo-tumor, and pseudo-cancer—to mention only a few.

The pathology of these inflammatory tumors is better understood but may also be sometimes confusing. The picture is that of a chronic inflammation in which the formation of granulation tissue predominates. The occasional presence of mast cells, giant cells, and clusters of lymphoid cells may occasionally lead to a mistaken diagnosis of carcinoma on frozen section.

The etiological factor causing such an overgrowth of granulation tissue is sometimes difficult to determine. It is not always possible to demonstrate a non-absorbable suture or some other type of foreign body causing chronic irritation. Pathologists have attempted to explain these cases by some mechanical constriction to the blood supply to the affected part. I do not see why it is necessary to presuppose some circulatory abnormality in the formation of a granuloma. The gastro-intestinal mucosa is constantly subjected to trauma, which may lower the local resistance and any minute break in the mucosa in the presence of a suitable organism may be the starting point of an inflammatory reaction. This same process takes place in other regions of the body, such as the skin or conjunctiva of the eye, and the surprising feature to me is that it does not occur more frequently in the gastro-intestinal tract. The gradual obliteration of the lumen of an appendix as a response to a low grade infection differs only in degree from the gradual occlusion of the intestine which occurred in Dr. Williams' two cases. It is interesting to note that a granuloma is one of the few conditions which can cause a partial or incomplete obstruction of the small bowel. A partial obstruction which does not rapidly become a complete obstruction is a clinical rarity between the ligament of Treitz and the ileo-cecal valve and is usually due to a gradual occlusion arising within the lumen of the bowel. Obstructions of the small intestine are usually due to extrinsic factors as adhesive bands or a volvulus with a rapid onset of complete obstruction.

The incidence of non-specific granulomas appears to vary in direct proportion to the bacterial content of the bowel. In the upper small intestine they are rarely found. The majority of cases reported in the small bowel are situated quite near the ileo-cecal valve. The vast majority occur in the colon and sigmoid. I think Dr. Williams' suggestion that the presence of long standing hernias in the two cases may have been an etiological factor is a very significant one. We have all seen fibrosis of the intestinal wall at the neck of a sac in incarcerated hernias and it is very possible that the trauma associated with hernias may be a causative factor.

If the first case reported by Dr. Williams turns out to be due to an amoebic infection, this, of course, will take it out of the category of non-specific granulomas. If it is an amoebic infection, it will be the first which has come to operation in the Medical College of Virginia hospitals. There have been ten proven cases of amoebic dysentery in St. Philip, Dooley and Memorial Hospitals, none of which came to operation.

Dr. Williams' two cases are quite interesting, and will help in throwing light on an unusual and frequently unrecognized condition.

*Prepared in advance of meeting and handed in for publication.

FUNCTIONAL DISORDERS ARISING FROM OVARIAN HYPOFUNCTION.

FRED M. HORSLEY, M. D., Arrington, Va.

Though there are many cases that pass the menopause with few symptoms, and others that lack in ovarian function who have little discomfort, yet there are quite a number who are not so fortunate under these conditions, and either have annoying symptoms or are in a great degree incapacitated by their disorders.

In the opinion of Graves, the majority of cases suffer little inconvenience and sometimes none from the removal of their ovaries. However, many practicing physicians have seen cases who, though belonging to this minority, are greatly affected by the lack of function or absence of these glands.

There are physicians who have gotten good results from the administration of glandular preparations, yet when these are indicated, the amount and kind of dosage for an individual case is not always clear. In fact, the medical profession as a whole is skeptical of any marked, consistent benefit along this line.

We find such men as Zondek, who claims that we cannot obtain any true endocrine effect with ovarian extracts, because, in the preparation, the active principle is destroyed; however, there is an impression among many that in the field of ductless gland therapy lies a great possibility of usefulness. Also, can any one say that all the active principles from these glands are known, and, if not, can it be said that they are all destroyed in the preparation of their therapeutic values. Dr. William Osler, who in his time leaned to drug nihilism, said: "There is perhaps no more fascinating story in the history of science than that of the discovery of these ductless glands. The study of the interaction of these internal secretions, their influence upon development, upon mental processes, and upon disorders of metabolism, is likely to prove in the future a benefit scarcely less remarkable than that which we have traced in the infectious diseases."

Dale also expresses the thought that autopharmacologic substances play a dominant

role within the body, in respect to its structure, its maintenance in health, and its preservation in times of invasion by diseases. There is a certain degree of knowledge already obtained concerning the function of the ductless glands; and treatment derived from their tissues or active principles have gotten more or less definite results.

Standardization, chemical analysis, physiologic and biologic knowledge of these, however, is hard to obtain, and this limits the usefulness of preparations derived from this source for treatment. The variability of the function of the endocrines is another puzzling factor; for a hyperthyroid case may become a hypothyroid condition, and doubtless this applies to the other regulators.

Barker states "That pluriglandular diseases are pathological processes; a general constitutional inferiority is mainly responsible. Exciting causes may be some noxa, as alcohol, infection, tuberculosis, syphilis, etc., that further limits the functions of the constitutionally feeble glands." Doubtless, too, there are border-line cases that are just limited in function from causes unknown.

The comparison, therefore, of clinical results should be one way of obtaining more accurate knowledge as to this problem.

Having treated a few cases with some definite results, even by oral administration of glandular preparations, I shall sketch some parts of their history which may be of some aid to others. I know that these are too few for definite and final conclusions, but they may suggest points of interest and helpfulness in treatment.

These cases, five in number, to which a few more could be added, come from those seemingly in various degrees of health, and as far as I could find, not influenced by heredity. Though there were a variety of symptoms, a common cause for their trouble apparently could be traced and gave some clue to treatment.

Case 1.—Approximately eight years ago I was called to see a colored woman, married, thirty-three years old and without children, who was having violent convulsions of a tonic and hysterical nature but with so much opisthotonos that I suspected strychnine poison. Coming from these attacks, nausea, headache, blindness, intermittent breathing and pain over the mastoid were some of her symptoms. Later, the pain migrated to the right lower abdomen. As the condition progressed, coma followed the convulsions, and she passed into a complete state of coma, interrupted by intermitten convulsions so severe that she had to be held in bed. This condition lasted for three days and I could give no relief from sedatives of any kind. Her relatives had given up hope of life and stayed in attendance day and night. Upon the third day it came to me that the ovaries had been removed from this woman about two years previously, so I gave her fifteen grains of ovarian substance a day with no results, but, upon doubling the doses to thirty grains, she recovered completely in twenty-four hours. About three years later, after she had been engaged in her usual housework, I was called to see her. Up to this time her health had been good, as far as I knew.

At this time a slight drowsiness, stupor and nervous manifestations were found present, which was relieved by about a ten-day treatment of ovarian substance mixed with a small quantity of thyroid and pituitary whole gland.

On February 20, 1933, while living and working in Washington, D. C., she became sick and was taken to the George Washington University Hospital. From a copy of her history kindly sent me by Dr. Jno. A. Reed, Director of the Out-Patient Department, I find at that time the patient's complaint was headache and dizziness. Retinal hemorrhage and sclerosis were found upon examination. Blood pressure 210/88. Diagnosis—hypertensive heart disease—arterio-sclerotic heart disease. Blood sugar 221 mgs. Sugar in urine. She was placed on a diet.

March 28th, the patient returned home and I found sugar in her urine, though she was on a restricted diet; there was also a weakened condition and stupid appearance. A mixed treatment as formerly given, after about three weeks, brought her around so that she did her own work and felt well. The lowered mentality disappeared. Losing sight of the case, she went on a normal diet July 23rd, and a month later I found no sugar in her urine. On September 5th blood pressure was 175/90, and there was no sugar in urine. At one time after glandular treatment her blood pressure became normal but did not remain so.

Case 2.—A single, white girl, thin, nervous and anemic, seventeen years old, according to her history, menstruated three days and some times three months apart. First attack began

XUM

about 1928. Sudden sharp pain over right ovary, extending down right lower back and front of right leg, with headache and nervousness. This lasted a week. In 1931 she had a fall and this started another attack. Off and on all that year her health was wretched.

During June, 1932,, I first saw her with an attack which consisted of hysterical—mostly tonic—convulsions, coma, nausea, vomiting, irregular intermittent breathing, paresthesias, pains, cramps—especially over abdomen—and hot flashes. Oral administration of ovarian substance and small quantities of whole pituitary and thyroid relieved her, but not so quickly as Case No. 1. In August another attack returned, but with this there was temperature, tenderness over McBurney's point that was constant, nausea and vomiting—more pronounced than usual—so I sent her to the University of Virginia for an appendectomy. The surgeon who did this work told her she had a "baby rattler" around her appendix—evidently a constriction.

For some months after this operation there was complete relief from former symptoms; but about April, 1933, one of her old neurotic attacks returned and this I could not control with my former treatment, nor with other manufactured products of like nature. Sedatives, even morphine and hyoscine, had little effect. Finally, after some weeks in desperation, I used a mixed preparation of ovarian, mammary and placental substance with the posterior pituitary gland, which gave relief quite suddenly.

Though relief was complete as to symptoms and feelings of patient, she passed by her menstrual period that was due in six days, and had a natural full time flow a month later.

At her last attack in August, the same combination as used above relieved more slowly and had to be doubled in quantity over a period of days before results were obtained, as the condition in a modified way held on for four or five days before it disappeared.

Case 3.—A colored woman, thirty-nine years old, married four years, no children, menstrual periods scant and lasting three days. In 1918, following influenza, she had hay-fever, and swimming in the head—which lasted a day. In 1932 another attack of hay-fever came on. On July 14, 1933, I saw her with a severe toothache and swollen face, from which she became delirious and unconscious, with intermittent breathing.

Ovarian substance combined, as in my former cases, gave her relief in a few days.

Case 4.—A well developed white girl, fifteen years old. Menstrual periods began in April of this year and only lasted three days. At thirteen years of age she had a severe attack of ovarian neuralgia, with sharp pain over left ovary, cramps and a fainty feeling. July 24, 1933, another attack of ovarian neuralgia took place, accompanied by headache, hot flashes, intermittent breathing and coma. Ovarian substance in combination, as used before, gave relief, but another attack was brought on by hearing of a husband beating his wife. Further treatment, however, corrected her condition.

Case 5.—A widow, white, thirty-seven years old, two children—six and three. Menstrual history normal until after birth of first child, when nearly a year later an attack of discomfort and cramping pain over stomach annoyed her. In five months this condition returned, and then became gradually more frequent; her menstrual periods became scantier and farther and farther apart until they were at intervals of four or five months. The cramps and pain over the stomach were usually relieved by vomiting, though sometimes a sedative was needed. In 1932, seven X-ray pictures were taken of her stomach and no pathology was found. The ovarian combination has been giving relief for three months since she commenced it, though previously this trouble had been coming several times a week. After three weeks' treatment on one capsule, containing two grains of ovarian substance, given t. i. d., she was able to get relief after dropping back to a dosage of one capsule a day.

Discussion

Some of these cases might have been taken for hysteria, or psychoneurosis, but closer observation and investigation of the menstrual histories and child bearing capacity attracts ones attention to the possibility of the trouble arising from ovarian deficiency.

The symptoms in these cases are variable, though there are some symptoms in common, especially that relating to their cause.

Like hysteria, there may be many and varied nervous manifestations in these conditions, but it is unlike hysteria in that the bodily functions are supposed to be controlled by ideas; yet with this there is no control. Though each case is a law unto itself, as to the amount of dosage and the time it should be continued,

XUM

this can be worked out by observation. Evidently very large doses are needed for relief where the symptoms are extremely aggravating or profound. The lack of endocrine activity must have an accumulative effect for harm, as in the toxemias of pregnancy; also shocks of various origins, physical or mental, may bring on an attack when the underlying cause is present.

Judging from Case No. 2, it seems probable that at times other endocrine aid is needed to cause the ovaries to function. Though the above case was relieved of her trouble six days before the time for menstruation, she passed by this period and had a normal flow a month later. This indicates the therapeutic aid which gave relief was not the same principle that established her menstrual cycle. Case No. 5 shows a definite neurosis of one special organ, and in this is different from the others. The lack of uniformly good results from the same treatment in a given case causes one to think that other glands become effected in the course of time.

THE INDICATIONS FOR POSTERIOR GASTRO-ENTEROSTOMY.*

H. H. HURT, M. D., Lynchburg, Va.

Since Wolfler, while working in Billroth's Clinic, did the first gastro-enterostomy in 1881, the indications for this operation have been a subject for argument by the surgeons and medical men who have had occasion to study and treat diseases of the stomach and duodenum. Wolfler's first case was one of cancer of the stomach. In 1892, Doyen performed the first gastro-enterostomy for gastric ulcer, and reported that after two years the patient's symptoms had not recurred. Codivilla is credited with first having used this procedure in the treatment of duodenal ulcer.

There are six pathological conditions in which gastro-enterostomy is sometimes, or always, indicated. I will enumerate these briefly, and later discuss the more important ones:

1. Duodenal ulcer.
2. Gastric ulcer.
3. Cancer of the stomach or duodenum.
4. Congenital hypertrophic stenosis of the pylorus.
5. Erosion of the pylorus by caustics, with resultant stricture.
6. Certain cases of dilatation of the stomach where there is obstruction at the crossing of the superior mesenteric vessels.

The last three types of cases are rare, but are listed by Moynihan as being amenable to gastro-enterostomy.

Duodenal Ulcer

The indication for surgical treatment of duodenal ulcer has been a much discussed subject, and surgeon and internist are not yet in entire agreement. Close cooperation between surgeon and internist is essential, however, in the management of these cases.

We are all more or less agreed that certain complications, such as perforation, obstruction and recurrent hemorrhages when on adequate treatment, are definite surgical indications. The contention has arisen in the management of the uncomplicated, but chronic duodenal ulcer. In considering these cases from the standpoint of medical management, we must take into consideration the economic and social status of the patient, and his willingness and ability to adequately adhere to a strict regimen. I think all surgeons now agree that if a patient is capable and in a position to undergo a thorough course of medical treatment, then surgery should not be resorted to until hope of cure by medical management is despaired of or complications arise. Dr. W. J. Mayo once defined medical failure as occurring "after nine complete and permanent cures."

As a general rule, it has been found that young and high strung individuals, particularly of the Jewish race, do better on medical management. It has also been found that persons with nephritis and hypertension do not stand alkalinization well. We must consider many factors in deciding whether to operate or not, and must decide each case as an individual one.

Having decided that a case should have surgical measures, we find that there are three types of operations which are ordinarily used in the treatment of duodenal ulcer. Every one agrees, however, that no single type of operation is suitable for all cases, and that the type of procedure carried out must be fitted to suit the conditions found at operation.

These three types are:

1. Gastric or duodenal resection.
2. Pyloroplasty.
3. Gastro-enterostomy.

In Europe resection has been quite fre-

*Read before the Lynchburg Academy of Medicine, Inc., March 6, 1933.

quently done in treating duodenal ulcer since Finsterer first proposed it in 1913. He brought forward this treatment because of the poor results obtained following more conservative procedures and reliable reports from European clinics for the less extensive procedures have been discouraging. The mortality rate following resection has been the main argument against it. It is a much larger operation than pyloroplasty or gastro-enterostomy, and, consequently, the mortality will be higher, although several European operators report mortalities as low as 2 or 3 per cent. The rate at the Mayo Clinic for this operation is 10 per cent, and Moynihan reports his rate to be 5 to 10 per cent. The discrepancy in these figures is probably due to the fact that in this country resection is largely reserved for the patients who have more extensive trouble, while in Europe this is not the case.

Walters, who made a tour of the European clinics in 1930, states that the peptic ulcers seen in Europe are different pathologically from the ones seen in this country. He states that they are frequently multiple and usually complicated by an associated gastritis. European observers find the ratio of gastric to duodenal ulcers much higher than we do in this country. These facts may account for the favor which resection enjoys in the treatment of duodenal ulcer by European operators. Most surgeons in this country reserve resection for the complicated cases of duodenal ulcer, preferring either gastro-enterostomy or pyloroplasty, both of which give good results and are safer procedures, particularly in the hands of the occasional operator.

Pyloroplasty was first devised in the 1880's, the classical one being that of Heineke-Mikulicz. The Finney pyloroplasty, reported in 1902, gave impetus to this type of operation for duodenal ulcer in this country. Many types of pyloroplasty have been developed and most of them give good results in the treatment of duodenal ulcer. A very satisfactory pyloroplasty is that of Judd, which consists in the removal of the ulcer with the anterior wall of the duodenum and the anterior two-thirds of the pyloric sphincter, closing the opening transversely. This operation does away with the sphincteric action, allowing the stomach to empty readily and the alkaline duodenal content to regurgitate into the stomach. It is physiological in principle and easy to perform. Judd says it can be used in 50 per cent of the cases, and gives good results in 90 per cent of the cases. It might be said that pyloroplasty is the operation of choice in the treatment of duodenal ulcer. That being the case, and resection being reserved more or less as a last resort from a surgical standpoint, the contra-indications to pyloroplasty would be the indications for a gastro-enterostomy.

I will briefly sum up the contra-indications to a pyloroplasty.

Pyloroplasty should not be attempted if technically too difficult, due to adhesions and deformity around the duodenum. Peri-duodenal inflammatory reaction is a contra-indication. A perforating ulcer on the posterior wall which could not be excised is best treated by gastro-enterostomy instead of pyloroplasty. Multiple lesions where the excision would entail great technical difficulty would be a contra-indication. Let it be remembered, however, that the contra-indications are all relative, and each case must be judged on its merits.

Having mentioned in general the contra-indications to pyloroplasty, let me mention the type of case in which it produces the best result and should be done in preference to gastro-enterostomy, even in the face of difficulty. That type of case is the so-called "ulcer former." It is the young individual, with a high lying, hyper-motile and hyper-acid stomach. These cases are particularly apt to form an ulcer around a gastro-enterostomy stoma and do much better with some type of pyloroplasty.

So we see that in general the contra-indications to pyloroplasty are the indications for gastro-enterostomy in the treatment of duodenal ulcer. In viewing the problem from this point one would gather that gastro-enterostomy is perhaps a vicious operation. This, however, is not the case, but it is not; nor is pyloroplasty or any other surgical procedure ideal in the treatment of duodenal ulcer. If there were such a procedure, that and that alone would be the operation which gave by far the best results and would cure the disease and be without complications.

In defense of gastro-enterostomy in the treatment of duodenal ulcer it might be quoted from Horsley that "Gastro-enterostomy has the largest field in the treatment of peptic ulcer of any operation." Sanders states that

XUM

"The simplicity of gastro-enterostomy, its safety and efficiency make it the most firmly established of all operations on the stomach." Gastro-enterostomy has stood the test of time, it is easy to perform and can be done in all cases. Its good results in the hands of even the occasional operator have been shown to be 80 per cent, and in the hands of the skilled surgeon 90 per cent. The worst complication is gastro-jejunal ulcer, but this occurs in only 2 to 3 per cent, and other types of procedure are not free from a similar complication. Hemorrhage following gastro-enterostomy for duodenal ulcer was noted in 9 per cent of a series of five hundred cases, but only one of these proved to be fatal. This small percentage of fatal hemorrhages following gastro-enterostomy for duodenal ulcer is thought by Dr. W. J. Mayo to be quite significant. Since the improvement in the mechanics of gastro-enterostomy, the so-called vicious circle has all but disappeared as a complication.

A very interesting observation is that of Balfour, who found that a series of cases who had had gastro-enterostomy done for duodenal ulcer five years or more showed a mortality rate lower than the mortality rate expected for a similar age group.

Gastric Ulcer

Peptic ulcers on the gastric side of the pyloric muscle, while not as frequent as on the duodenal side, have been shown to be prone to become malignant. It has been stated that there is no essential difference between the gastric and duodenal ulcers except the cancer potentiality. This difference is indeed an important one, and consideration for it alters the treatment of gastric ulcer from that of duodenal ulcer. The danger of malignant change in a gastric ulcer has led both surgeon and internist to agree on earlier and more radical surgical intervention. Some have gone so far as to say that all chronic gastric ulcers should be operated upon. Most agree that surgery is indicated unless the diseased condition ameliorates under a short course of treatment.

In the surgical treatment the same procedure as for duodenal ulcer is used, but with modifications such as suit the individual case. A prime indication in any procedure in the treatment of gastric ulcer is the removal of the ulcer itself no matter what type of procedure is used. This, though technically difficult at times, can usually be done, and the relief from worry as to whether the lesion was benign or an early malignancy is worth the added risk and difficulty of its removal.

Partial gastrectomy in the treatment of peptic ulcer has enjoyed its greatest popularity in the treatment of the ulcer of the pyloric region of the stomach. This operation removes the ulcer bearing area of the stomach, and, while it does not remove the portion of the stomach from which the hydrochloric acid is secreted, the acidity of the gastric secretion is found to be lowered after the removal of the *pars pylorica*. Gastric resection, however, is a big operation and carries, even in the hands of the most skilled, a considerable mortality. But for this fact it would doubtless be the operation of choice in most cases of ulcer in the pyloric region. It can be said that it is the indicated operation where there are multiple ulcers or a large ulcer near the pylorus.

Pyloroplasty with excision of the ulcer is an admirable and safe operation when the ulcer is near the pyloric sphincter or associated with a duodenal ulcer. Pyloroplasty has not, however, been used as widely in the treatment of gastric ulcer as in duodenal ulcer. If used it should be combined with local excision of the gastric lesion, either by knife or cautery method.

Gastro-enterostomy has been preferred to pyloroplasty in the gastric ulcer cases. It is combined with local excision of the lesion unless the ulcer is so placed that the risk of removal outweighs the risk of malignancy. This risk of malignancy has been shown by Wilson and MacCarty to vary directly with the size of the lesion.

Results at the Mayo Clinic have shown that 75 per cent of the gastric ulcers occur in a relatively small area along the lesser curvature, and these, when treated by local excision, combined with gastro-enterostomy, give good results in 90 per cent of the cases. The mortality rate is lower than for a resection, and it would seem that the conservative operation with such good results would be preferred, certainly if technical difficulties bade fair to make resection too risky. For the ulcer far removed from the pylorus, out of the range of a resection, whether on the lesser curvature or in the cardiac portion of the stomach, gastro-enterostomy is the operation of choice and gives uniformly good results.

There is another type of ulcer of the stomach which has not been mentioned, which is very interesting. This is the ulcer with hour-glass contracture. These are usually associated with small ulcers. Sleeve resection of the contracture is the mechanically ideal procedure, but, unfortunately, carries a higher mortality than less radical operations. Anastomosis between the two pouches has given good results. Gastro-enterostomy, utilizing the upper segment, is usually easy to perform and gives uniformly good results. It might almost be said of gastro-enterostomy that it will give good results in any gastric or duodenal condition in which there is obstruction.

Gastric or Duodenal Cancer

These will be considered together since duodenal cancer is rare and the indications for gastro-enterostomy are the same in both conditions.

The prime indication in any malignancy is to remove or destroy the malignant cells with safety to the patient. Unfortunately, this is too often impossible. The next best is to do that thing which will provide the patient with the greatest number of days of comfortable and useful existence between that time and the time of his inevitable death from the malignancy.

Having decided that a neoplasm cannot be removed with safety or any promise of cure, then, one must decide whether the growth is or will cause obstruction. If so, then a short circuiting operation around the malignancy gives relief to the distressing vomiting which follows obstruction in the stomach or duodenum. This operation is well borne by even debilitated subjects and the relief afforded is quite gratifying. To be successful, however, the stoma should be large and well removed from the malignant growth.

Balfour has been disappointed in gastro-enterostomy as a palliative procedure in obstructing cancer. He looked up a series of cases once and found that the ones with gastro-enterostomy lived only one month longer than the ones who were only explored and nothing else done. He reserves the palliative gastro-enterostomy for the patient with a small lesion but which for some reason cannot be removed.

On rare occasions it will be found that a patient will have a resectable lesion but will be in such a precarious state of health from starvation that a preliminary gastro-enterostomy will allow him to build up to such a point that he will be able to withstand resection.

Very rarely, too, lesions outside of the stomach and duodenum will cause obstruction to the duodenum. Such a thing is possible in cases of carcinoma of the head of the pancreas. These cases are relieved by gastro-enterostomy and, if provision is made for the flow of bile, will, in some cases, live quite a while.

Summary

Gastro-enterostomy is an old operation, having stood the test of time for fifty years, and given good results in 80 to 90 per cent of the cases for which it has been used in the treatment of peptic ulcer. The percentage of recurrences after gastro-enterostomy is small. It protects against fatal hemorrhage. It is relatively easy to execute and can be undone if not satisfactory. It meets the requirements as a palliative procedure in malignancy of the stomach or duodenum with obstruction.

Let us remember, however, that gastro-enterostomy is never indicated except in the presence of organic and demonstrable disease. "Fallen stomach," gastric neurosis, or nervous indigestion, have never, nor ever will be benefited by a gastro-enterostomy.

Allied Arts Building.

CERVICITIS, PRENATAL, PUERPERAL AND POSTNATAL PROPHYLAXIS.*

J. W. HENSON, M. D., F. A. C. S., Richmond, Va.

In the rapid progress shown in most lines of endeavor during the past forty years, the medical profession has been no laggard. One of the high lights marking its advance has been the steadily growing realization of the importance of the first part of its dual responsibility.

Prophylaxis in medical diseases has grown rapidly. Its progress in surgical affections has not been so rapid, though the workers in this field have been just as diligent. In medicine, for example, prophylaxis has accomplished much in typhoid fever, malaria, hook worm disease, infantile diarrhea, tuberculosis, typhus fever and a number of other diseases. In the field of surgery, cancer, gastric and duodenal ulcers, appendicitis and cervicitis, with their complications and sequelae are still with us.

*Read before the Richmond Academy of Medicine, June 13, 1933.

This paper presents three distinct objectives: decrease in the number of cases of puerperal sepsis, decrease in the number of cases of postnatal cervicitis and prevention of the many disagreeable and often grave complications and sequelae of postnatal cervicitis. There will, therefore, be three headings, and under each will be discussed the means to be employed to accomplish the corresponding objective.

First, the prenatal care of the pregnant woman should include attention to cervicitis, if present, for reducing the number of cases of puerperal sepsis.

It has been found by the most careful obstetricians that there are a number of cases in which, in spite of the fact that there were no vaginal or rectal examinations made during delivery and no contamination of the vagina for several weeks before delivery, puerperal sepsis will develop.

Miller, Martinez, and Hodgdon, of Pittsburgh, have made direct cultures from 175 cases of chronic cervicitis in pregnant women, finding some type of streptococcus in over 10 per cent and the streptococcus hemolyticus in approximately 4 per cent of this group.

I feel sure that the majority of obstetricians will agree with these authors that, in 90 per cent of what are considered normal deliveries, decided bruising of the cervix and lacerations of varying degree occur, thus providing a condition favorable for infection.

The conclusion of these writers, in view of the above findings, is that at least 4 per cent of women who go through pregnancy with chronic cervicitis, untreated, should and would have puerperal sepsis except for individual resistance and they recommend the use of the cautery in the early months of pregnancy as a safe and efficient treatment.

Hoenig claims that over 50 per cent of parous women and a number of nulliparae have chronic cervicitis. Strachan claims that from 75 per cent to 80 per cent of women who have borne children and from 10 per cent to 25 per cent of women who have not borne children have chronic cervicitis.

I believe that every woman who is found to be pregnant should be examined without delay to determine whether she has chronic cervicitis so that, if a positive diagnosis is made, treatment can be given in the early months. While surgical diathermy, lightly applied two or three times at intervals of six weeks, is safer and more efficient than the cautery, there is danger that either method may cause abortion. I prefer using 10 per cent or 15 per cent silver nitrate at intervals of a week or ten days. While this treatment will not cure cervicitis, it will produce an apparent cure, thus minimizing the risk of puerperal sepsis.

In addition to frequent periodic urinalyses and blood pressure readings for the purpose of obtaining early recognition of toxemia, pyelitis or nephritis, the pregnant woman should be put in the best possible physical condition so that her resistance to infection may be of the best.

Second, the treatment during delivery and immediately following delivery should be directed to prevent, if possible, the occurrence of cervicitis.

Without discussing in detail the care to which a woman in confinement is entitled, I wish to emphasize the following points: Plenty of time should be allowed for complete dilatation of the cervix, using the recognized drugs to aid this when necessary. Forceps, when necessary, should be in the hands of one whose experience is an established fact. A careful examination of the cervix should be made immediately after delivery.

Cervical tears, small or great, should be repaired at once with the strictest observance of aseptic surgical technique.

Third, the later postnatal treatment should be carried out for the cure of cervicitis, thus preventing the disagreeable complications and sequelae, and providing favorable conditions for future conception and delivery.

Before taking up the question of this treatment, I wish to discuss briefly, and for the sake of emphasizing their importance, the many grave conditions, some or all of which will inevitably follow an uncured cervicitis, and, further, I wish to stress the frequency with which cervicitis will manifest itself a few weeks after delivery and point out that other pathology, both recent and old, may be found and must be cared for.

The histologic structure of the mucosa of the cervical canal is such that it is susceptible to infection which, once established, remains and progresses unless the racemose glands are radically removed.

In spite of the experiments of Cornét, Poiriér and others, I am with those who believe that the arrangement of the lymphatics in the cervix and body of the uterus, utero-sacral and broad ligaments, tubes and ovaries,

offers provision for many complications and sequelae, among which may be enumerated the following:

Enlargement and induration of the cervix and body of the uterus.

Lymphangitis of the bases of the broad ligaments.

Lymphangitis of the utero-sacral ligaments.

Pelvic cellulitis.

Salpingitis, pyosalpinx.

Development of retention cysts of one or both ovaries, ovaritis, ovarian abscess.

Dysmenorrhea.

Sterility.

As remote sequelae may be mentioned arthritis (Rosenow, Moench, Sturmdorf and others); carcinoma of the cervix (Hoenig, Davis, Matthews, Miller, Bailey, Strachan and others). Ewing states that chronic cervicitis precedes cancer of the cervix in the majority of cases. Mayo states that 60 per cent of the cases of cancer of the cervix are traceable to chronic cervicitis.

Cervicitis will be found in many women some weeks after delivery, though their cervices were healthy before and during pregnancy.

I feel safe in asserting that the reason for this, in over 90 per cent of such cases, is the exposure of an area of the mucosa of the cervical canal, where tears have been uncared for or improperly cared for, and occasionally where incomplete union has occurred in spite of stitching under the best conditions.

Every woman from six to eight weeks after delivery, should be examined through a vaginal speculum. If cervicitis is present, with or without complications, it should be treated at once by surgical diathermy and cured before treating complications, if present. If pronounced tears are present, whether old or the result of the recent delivery, they should be repaired by denudation and stitching after curing cervicitis, if present. If one finds elevations or nodules caused by tears whether recent or old, the nodules should be reduced to the level of the tears by electro-coagulation after curing the cervicitis, if present.

One may find a very large cervix. Such a cervix should have repeated more-or-less cone shaped electro-coagulation treatments until it is reduced to normal size or nearly so, thus reducing the weight as well as curing the cervicitis, if present.

If these treatments are properly done and followed up, the cervix and its lining will be left in a healthy condition, thus avoiding subsequent, more-or-less grave complications and sequelae, and leaving conditions favorable for future conception and delivery. Any woman suffering from continuous pelvic disease is seriously handicapped, whatever may be the stratum of society in which she finds herself.

In a former paper (*Virginia Medical Monthly*, March, 1932) advocating surgical diathermy for the treatment of chronic cervicitis, a description was given of the technique in detail. A description of the technique, somewhat condensed, will here be given to emphasize some points in this paper, and to introduce some changes.

Being convinced that a permanent cure of chronic cervicitis could only be obtained by removing, not only all visible diseased tissue (erosion, so-called), but the entire racemose gland bearing area surrounding the cervical canal, I began, several years ago, the practice of destroying by electro-coagulation a more-or-less cone shaped piece of tissue surrounding the cervical canal, the base being the diseased area around the external os and the apex approaching the internal os—a Sturmdorg operation without the knife. No claim to originality in the use of surgical diathermy in the treatment of chronic cervicitis is made. There were a number of men at widely separated points over the entire country who began the use of this treatment for chronic cervicitis at about the same time, the technique devised by each being more-or-less different from that of the others.

One treatment is usually sufficient. Of course, if any of the racemose glands are left, further treatment will be required. The presence of the discharge characteristic of endocervicitis, occurring several weeks after an apparent cure, indicates the need for further treatment.

Instead of using, as recommended in a former paper, any one of the several active electrodes made for electro-coagulation of tonsils and depending on pushing this electrode into the cervical tissue when the current is on, I now have a special steel needle made, 10 inches in length by 1/16 of an inch or a little less in width. One end, for about 7/8 of an inch, is triangular (three cutting edges), and terminates in a sharp point. Soft rubber tubing insulates the shaft of the needle, the 7/8 of an inch at the spear-like end, and a small space

at the opposite end for the attachment of one of the cords from the diathermy outfit, being left uncovered.

This needle, on account of the construction of the active end, can be easily introduced into the toughest cervical tissue the desired direction and depth before the current is turned on. The current is turned on by a foot switch and in a few seconds the tissue around the needle is coagulated (turns white). One should not use the current of such strength or for such length of time as to produce rapid dehydration and charring of the tissues, which might result in the formation of scar tissue.

After the introduction of a vaginal speculum, which, by the way, is used as the indifferent electrode, the cervix and its canal should be cleansed, and around the former should be injected, at several points just below the cervico-vaginal junction, a local anesthetic, and the cervical canal packed with cotton saturated with the solution used in the syringe.

I use, with good results, a solution containing nupercaine 1 to 250 and adrenalin chloride 1 to 40,000, waiting ten minutes before beginning the electro-coagulation. The cotton is now removed from the cervical canal, the cervix is grasped by a Vulsella forceps and, the direction of the cervical canal having been ascertained by probe, the needle can be introduced accurately.

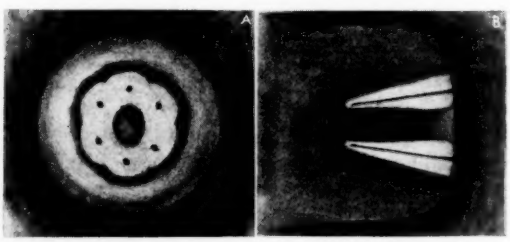

Plate 1.

Plate 1 illustrates (A) how the needle is introduced at various points around the external os, and (B) pushed inward in such direction as to approach the canal near the internal os. The distance of the needle puncture from the margin of the external os must be determined by the size of the diseased area around the os.

When there is little pathology beyond the external os, the needle may be entered about 1/8 of an inch external to it and pushed in almost parallel to the canal. The needle should not be introduced near the outer border of the diseased area as a rule because, by so doing, the coagulation would extend outward further than necessary unless the cervix is very large. The distance that each path of the needle should be from its neighbor, in order to properly coagulate a cone of tissue, can only be learned by observation and experience.

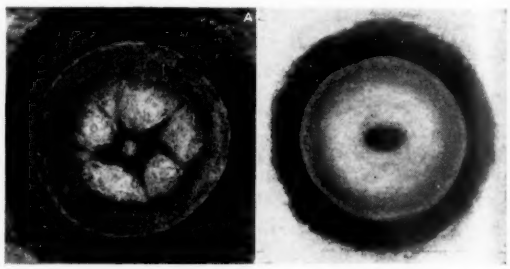

Plate 2.

Plate 2 illustrates a cervix (A) with endocervicitis, multiple tears and irregular nodules, and a cervix (B) which has been treated by the cone shaped electro-coagulation for endocervicitis as shown in Plate 1 (A). The same result, Plate 2 (B), can be obtained from treating a cervix, Plate 2 (A), first by the cone shaped coagulation method, and, later, by the reconstruction use of coagulation for the irregular nodules surrounding the external os.

I have never seen stenosis follow the surgical diathermy treatment of cervicitis. The resulting cervical canal and external os are usually about normal upon evidence obtained by inspection, palpation and instrumental examination, and there is no evidence of scar tissue.

I will report two cases, each representing a distinct type.

Case 1. Mrs. H. B., primipara, white, twenty-five years of age, had no cervicitis before delivery. Labor was extremely easy, pains mild, and delivery was completed without aid other than external manipulation.

There were two tears in the cervix about ½ of an inch and 1 inch deep, respectively, which were stitched promptly and with close attention to aseptic technique. An examination through a vaginal speculum eight weeks after delivery showed complete union of the tears, and a perfectly healthy condition of the cervix.

Case 2. Mrs. D. E. G., primipara, white, thirty years of age, had no cervicitis before delivery. All measurements were a little less than normal. Dry labor—twelve hours in du-

ration; pains severe; cervix torn from the middle of the posterior lip to the cervico-vaginal junction.

Under strictest asepsis this tear was repaired immediately after delivery. An examination through the vaginal speculum eight weeks after delivery showed that the repair was successful to about ¼ of an inch or less from the margin of the posterior lip.

In addition to this small notch there was shown a narrow, semilunar, strip of cervical mucosa and a discharge of a character to indicate endocervicitis. One treatment of surgical diathermy was given. An examination six weeks later showed a healthy, normal, external os and cervical canal.

By the surgical diathermy treatment in Case 2 the woman was not only put in a better condition for future conception with a lessened possibility of sepsis after delivery, but was relieved of the risk of the many complications and sequelae that a continued chronic cervicitis entails.

The follow-up treatment to the time of healing after the use of surgical diathermy in chronic cervicitis is described in a former paper.

Summary

1. On good authority 75 per cent to 80 per cent of multiparae and 10 per cent to 25 per cent of nulliparae have chronic cervicitis.

2. Probably 10 per cent of these would show, on direct culture, some variety of streptococcus, and probably 4 per cent would show streptococcus hemolyticus.

3. About 4 per cent of pregnant women who have chronic cervicitis, if left untreated, should and would have puerperal sepsis except for individual resistance.

4. If chronic cervicitis be carefully treated in the early months of pregnancy, the risk of puerperal sepsis will be minimized.

5. The proper care of a woman during delivery and the immediate postnatal care of a torn cervix will minimize the occurrence of postnatal cervicitis.

6. From six to eight weeks after delivery every woman should be examined with a vaginal speculum. If cervicitis be present, it should be treated by surgical diathermy, securing a cure.

References

Amer. Jour. Obstet. & Gynec., 12:374, September, 1926: Fulkerson.

Jour. A. M. A., 87:1802, 1926: Matthews.

Med. Jour. & Record, 126:370, 1927: Hoenig.

Jour. A. M. A., 87:1695, 1926: Miller.

Va. Med. Monthly, Vol. 58, No. 12, March, 1932: Henson.

Medical Arts Building.

A RATIONAL TREATMENT OF PYLOROSPASM IN INFANTS.*

CHAS. P. MANGUM, M. D., Richmond, Va.

Spasmodic closure of the pylorus in infants has been described under a number of different terms. It was first known as "watery gripes." White, of St. Louis, calls it "infantile gastro-enteropspasm" or "autonomic imbalance." Holt and Howland classify it under the heading "neuropathic infant," while Haas and others have called it one of the hypertonic diatheses."

Every physician is familiar with the fretful infant, one to six weeks of age, who may cry during or immediately after a nursing; seem decidedly uncomfortable and restless until relieved by vomiting and not infrequently having a stool at the same time. Occasionally the taking of water will result in the same phenomenon. The vomiting may be simple regurgitation or projectile in type. The stools may be undigested and loose, normal or constipated. They may present any one or all of these characteristics in the same infant. The nutrition may or may not be markedly affected, depending upon the duration and remissions of symptoms. Anhydraemia is rarely present until the terminal stage of this condition which is usually associated with some intercurrent infection.

It is most improbable that the pylorus alone should be involved in spasm. The whole gastro-intestinal tract is involved to a greater or lesser extent. In cases where the emaciation is sufficient, hyperperistalsis may be seen and felt. In my experience all these infants are hypertonic. The skeletal muscles offer resistance to passive movement, the extremities are flexed, and these babies react unduly to noises and fright.

Vomiting being sometimes noted in hypertonic infants with laryngospasm associated with altered calcium metabolism, who respond quickly to calcium therapy, led to an investigation of the possibility of pylorospasm being due to the same calcium disturbance.

The following report is of a case selected

*Read at the sixty-fourth annual meeting of the Medical Society of Virginia, in Lynchburg, Va., October 24-26, 1933.

from forty-three cases of pylorospasm subjected to this study:

Baby "A," age 7 weeks, weight 9 pounds 9 ounces.

Delivery was normal; birth weight was 7 pounds 14 ounces.

Family history was negative. There are two brothers who developed normally, ages two years and six months and six years, respectively. This baby seemed to do well until it was about four weeks of age, except that the mother noticed it cried more than she thought it should and the cry was high pitched and shrill. The mother noticed that the baby was "nervous"; slight jarring of the crib would cause the infant to stiffen out with head retracted. The baby vomited the breast milk at intervals during the third week, and at about the fourth week began vomiting each feeding, the vomiting becoming projectile in type. The baby seemed to feel more comfortable after vomiting. The stools were constipated and infrequent. The weight had remained stationary for about three weeks. It had been put on artificial feedings in an effort to stop the vomiting.

Physical examination was essentially negative except that the infant was fretting continuously; passive resistance of the extremities was present; the extremities were flexed; the hands were clinched and the reflexes exaggerated. The only abnormal report from the laboratory was a total serum calcium of 8.8. mg.

Treatment: This infant was put on a formula of skimmed lactic acid milk with one and one-half ounces of beta lactose. To this was added one dram of calcium gluconate and the baby was allowed to take all of four ounces that it wanted every four hours. Three drops of a 1 to 1000 solution of atropine was given preceding each feeding. Two c.c. of a 10 per cent solution of calcium gluconate was given intramuscularly as soon as the diagnosis was determined. Ten drops of viosterol was given daily.

The baby vomited only one feeding during this first twenty-four hours and slept practically through the first half of the day, but became very fretful again during the afternoon. As there had been no stool an enema was given, but the baby continued fretful and slept little throughout the night. The next day the calcium gluconate in the milk formula was increased to two drams. The baby seemed very comfortable after noon of the second day. From that point on the progress was uneventful. The atropine solution was discontinued after the fifth day. At the end of the first week the baby had gained seven ounces, weighing ten pounds. No hypertonia was present. A serum calcium determination at this time showed 9.6 mg. and the calcium gluconate in the milk was reduced to one dram. At the end of the second week the baby weighed ten pounds and eight ounces and the serum calcium was 10.2 mg. The calcium gluconate administered was reduced to thirty grains daily. At the end of the third week the weight was eleven pounds two ounces and the serum calcium 10.5 mg. From this point the calcium gluconate was discontinued. The mother was instructed to continue the viosterol and to return with the baby in one month. When the baby was next seen it was four months old, weighed fourteen pounds and there had been no return of any symptoms.

Discussion: The normal total serum calcium runs a bit higher in infants than in adults. Investigations by Jones, Mayer and Nohlen[1] have shown that the average during the first twelve days is 12.65 mg.; during the first two months 12.3 mg., falling to 11.5 mg. by the end of the fourth year. The effect of calcium upon the excitability of the nervous system has been positively demonstrated by Loeb[2] and others. A normal calcium metabolism prevents an increased excitability of both the somatic and autonomic nervous systems by inhibiting the stimulating action of the sodium and potassium ions.[3] Haas offered the suggestion some time ago that both pylorospasm and hypertrophic pyloric stenosis might simply be the dominant features of a general state of hypertonicity. Blood calcium exists in two forms, diffusible, which is represented by the spinal fluid calcium, and non-diffusible, which is bound to the serum protein.[3] It is the calcium ion concentration of this diffusible portion that effects nervous excitability. Therefore, the finding of a normal range of total serum calcium does not necessarily indicate a normal calcium balance as there may be a decreased calcium ion concentration in this diffusible portion.

In forty-three cases, of which I have detailed results, the total serum calcium range was from 7.0 mg. to 12.3 mg.

There are a number of other factors which influence calcium activity, e. g., pH concentra-

tion of blood, parathyroid activity, acid-base balance of tissue, etc.,[4-5-6-7] which will be discussed in another paper.

In treating pylorospasm, or gastro-enterospasm—which seems a more descriptive terms, —one has to deal with a vicious circle. The hypocalcaemia, or the reduction in calcium ion concentration through its excitation of the somatic and autonomic nervous systems, induces spasmodic closure of the pylorus with vomiting. Loss of hydrochloric acid by vomiting results in a relative alkalosis as well as reduced calcium intake. The alkalosis and reduction of calcium intake result in a reduced calcium ion concentration and at times a reduced total serum calcium. This reduction results in an increased excitability of the nervous systems with its associated spasmodic contraction of the pylorus and vomiting.

The objective of any method of treatment is to break this vicious circle. The administration of atropine solution through its antispasmodic action, or luminal by its sedative action, accomplishes this after varying lengths of time, by effecting an increased calcium intake and absorption. This series of cases was treated by the administration of calcium, and it was found that the duration of the condition was considerably shortened and the response much more prompt.

The cases were divided into two groups. One group received calcium therapy in the form of calcium gluconate, 2 to 5 c.c. of a 10 per cent solution intramuscularly daily to every other day and 1 to 3 drams of calcium gluconate powder daily in the milk formula. The formula used was skimmed lactic acid milk with beta lactose as the added sugar. This sugar was used because it has been shown that calcium absorption is increased in the presence of lactic acid fermentation of lactose in the small intestine.[8] Skimmed lactic acid milk was used, as fat interferes with calcium absorption.[9] Ten to twenty drops of viosterol were given daily.[10] A serum calcium determination was done at weekly intervals. The second group received the same treatment except that they were given atropine solution before feedings. This second group responded more quickly and seemed more comfortable. Due to the combined antispasmodic effect of atropine and calcium they retained their feedings better and the colic stopped as a rule during the first twenty-four hours. The first group, without atropine, continued to vomit at intervals for a few days. Each case received one intramuscular injection of calcium. The greatest number of injections any one case received was four. In this case the total serum calcium at the start was 7.0 mg. (This case had a marked associated laryngospasm with cyanotic attacks, marked hypertonia, but no convulsions.) The average length of time elapsing before cessation of symptoms, that is, when atropine could be discontinued and there was contentment and no more vomiting, was one week. In the group that did not receive atropine it was about twelve days. In none of the cases was it necessary to readminister atropine. The average length of time for a return to a normal level of total serum calcium was about three weeks. The administration of calcium by mouth was continued until the serum calcium approached a normal level. In those cases not showing a reduction in this total serum calcium it was continued for one week after cessation of all symptoms. It was not found necessary to use Collip's parathormone. All cases responded quickly and satisfactorily without it. It is best to keep the feedings low in fat throughout the course of treatment, not because, as was once thought, the fat tends to delay the opening of the stomach, but because fat tends to inhibit the absorption of calcium. Daily lavage with a sodium bicarbonate solution is contraindicated for obvious reason.

Conclusions

1. Spasmodic closure of the pylorus in infancy is a manifestation of hyperexcitability of the somatic and autonomic nervous systems due to hypocalcaemia.

2. The term "gastro-enterospasm" is more descriptive of this condition than "pylorospasm."

3. The response to treatment with calcium is prompt and the length of time of treatment is considerably shortened.

4. The administration of atropine along with calcium insures greater comfort for the patient.

5. With the use of calcium the relief from this condition is permanent. No ill effects were noted.

Bibliography

1. Jones, J. H.: *Jour. Biol. Chem.*, 1931, 95-153.
2. Loeb: *Arch. Physiol.*, XCI (1902), p. 248.
3. Cantarow, Abraham: Calc. Metab. and Calc. Therapy, 2nd Edit. 1933.
4. Freudenberg, E., and György, P.: Jahrb. F. Kinderheilk, 1921, 96-5.

5. Rous, P., and Drury, D. R.: *Jour. Exper. Med.*, 1929, 49-435.
6. McCann, W. S.: *Jour. Biol. Chem.*, 1918, 35 553.
7. Albright, F.: *Jour. Clin. Invest.*, 1929, 7-139.
8. Bergeim, Olaf: *Jour. Biol. Chem.*, September, 1926.
9. Sherman, H. C.: Chem. of Food & Nutrit., 1911. Macmillan Co., N. Y.
10. Shelling, D. H.: *Jour. Biol. Chem.*, 1932, 96-215.

816 *West Franklin Street.*

DISCUSSION

DR. S. A. ANDERSON, Richmond: This subject of pylorospasm is always a fascinating one for those who are particularly interested in children, and for those who are interested in adults, too, perhaps, to a lesser extent.

I think Dr. Mangum was wise in avoiding the question of when pylorospasm is to be considered hypertrophic pyloric stenosis, and he avoided the question of when to operate and when not to operate. I shall avoid that, too.

We are all familiar with the child, as he suggests, who is irritable, cries a great deal, is hypertonic, etc. There are always discussions as to the cause of this condition and what should be done to relieve it. There are certain facts which are always accepted, as demonstrated by the child himself. Some of these facts are that there is an obstruction to the pylorus and that the food does not leave the stomach as soon as it should. There is over-activity of the stomach muscles, as is frequently demonstrated by the visible peristaltic waves in the stomach. Sometimes, when there is a definite pyloric tumor present, this can be palpated. That does not come under our present discussion. There is also spasm at the pylorus, which accounts for the obstruction, demonstrated by the fact that food comes back from the stomach instead of going on, and is also demonstrated in X-ray studies by the use of the barium meal.

These children, as Dr. Mangum pointed out, are colicky, are generally hypertonic. In addition, there are other symptoms which might be called associated symptoms, which may or may not be present. These symptoms have been pointed out particularly by some men doing pediatrics around Chicago, Aldrich in particular. They have pointed out some symptoms associated with thymus enlargement, sometimes symptoms of holding the breath. Dr. Mangum mentions one case which he called laryngospasmodic cyanosis. We all know cyanosis is associated with laryngospasm. Other symptoms are queer noises in breathing, suggestive of tumor in the larynx, increased colic, restlessness at night, and cough. These things are all, he said, to be associated with these symptoms of pylorospasm. Because of these things, Dr. Mangum has told us, and because of these associated symptoms, physiologists have naturally turned toward atropin as the natural drug to attack this condition, because most of these symptoms can be explained on the basis of an increased tone on the vagus side of our autonomic nervous system, or perhaps decreased tone on the sympathetic side, which is the natural antagonist of the vagus side. Atropin is the drug we all try to use first, and perhaps we have been disappointed in finding it does not accomplish as much as we hoped it would accomplish. In addition to atropin, Dr. Mangum mentioned that phenylbarbital, or luminal, has been used for its sedative effects. This does not have some of the disagreeable effects that atropin has.

Vitamin B has been accused of being deficient in these children, and certain experiments have shown that the emptying time of the stomach in animals is improved when vitamin B is added to their diet.

Two years ago, because of these associated symptoms I have mentioned in the case of some very severely obstructed children, Dr. Barbour, of Peoria, Illinois, noticed that some of the children improved following X-ray studies. This led him to consider the possible effect of X-ray on these children, and he exposed a large number of them to X-ray over the thymic area. He reported remarkable improvement and suggested as a final therapeutic test that X-ray should be tried, to see if it might accomplish the result which it had been considered operation was the only means of accomplishing. Only last spring I found out that Dr. Barbour had changed somewhat from using X-ray and is following the logical thing along the line of vagotonia and is giving some children suprarenal gland. In connection with this he is also giving atropin. The rationale of that, I understand, is that after birth the suprarenal gland is known to involute to some extent, and he is assuming that there is over-involution of the gland at about two or three weeks of age, when most of these symptoms start, and that, therefore, the stimulus to the sympathetic side is lacking, and in furnishing this dried gland he is supplying the deficiency. In any event, he feels he is getting very satisfactory results. That raises the question, of course, whether this gland substance, in going through the digestive tract, is not destroyed.

I mention these things to show that there are various methods of attacking the problem. This evening we have been given another method of attacking it. It is suggested that deficiency of calcium is the cause of the hypertonicity, of which tetany, in children, is the most common manifestation. The possibility of a deficiency of calcium alone being responsible is, of course, open to some discussion. The calcium available in the baby's diet is abundant, because we are told that milk is the best source of calcium, and milk, either from the breast or from a cow's-milk formula, furnishes sufficient calcium for the baby's needs. The utilization of calcium is another matter. Dr. Mangum has mentioned that he uses viosterol in connection with the use of calcium. That, of course, is as it should be, as viosterol is known to increase the assimilation of calcium. It is interesting to speculate whether the administration of viosterol alone, in the ordinary diet, would have accomplished a similar result. (*Time called.*)

DR. C. H. BONDURANT, Bedford: I should like to ask Dr. Mangum if the ultra-violet light, in utilizing the calcium, would be of value.

DR. MANGUM, closing the discussion: As for the viosterol alone bringing about the desired results, viosterol's chief influence is upon the intermediary metabolism of calcium. Shelling, in 1932, was able to induce a hypercalcaemia in a parathyroidectomized animal with large doses of viosterol. In a baby the desired result might be obtained provided you could make the baby retain its calcium containing food.

The maintainance of a normal calcium balance is a complex problem. It is dependent upon a normal parathyroid activity; a normal hydrogen ion concentration of body fluids and tissues; a normal blood phosphorus and protein; a sufficient quantity of vitamine D; a sufficient calcium intake and a normal calcium absorption. It can be readily seen that this would be practically impossible in pylorospasm. To

begin with, the baby vomits about all the milk taken, thereby reducing the calcium intake and absorption. The vomiting also disturbs the acid-base balance.

As for the ultra-violet light, G. W. Clark found, in 1920, that irradiation caused an increased absorption of calcium. It would undoubtedly be of benefit in the treatment.

MULTIPLE ABSCESSES OF THE LIVER COMPLICATING ACUTE APPENDICITIS—A CASE REPORT.

W. H. SAUNDERS, M. D.,
and
T. D. ARMISTEAD, M. D.,
Roanoke, Va.

In view of the fact that appendicitis is the most common acute abdominal disease seen clinically, and that hepatic abscess is probably the most rare and dreaded complication of appendicitis, this case of multiple abscesses of the liver is reported. Probably the first case reported in the literature was described by Waller[1] in 1846. Osler[2] stated that pyemic abscesses of the liver and suppurative pylephlebitis are invariably fatal. According to Babcock,[3] the mortality rate is 75 per cent from the solitary abscesses and almost 100 per cent from the multiple abscesses of the liver. Pyemic abscesses are usually multiple, this being the type usually complicating appendicitis.

As mentioned above, the mortality rate from these abscesses is about 100 per cent. W. A. Barnes and William George reported one case each in 1928 in the *British Medical Journal* in which recovery followed surgical drainage. Quain and Waldschmidt[4] reported one thousand consecutive cases of appendicitis with only one complicated by multiple hepatic abscesses.

The following is a case record of liver abscesss complicating appendicitis:

H. W. P., male, age 26, was admitted to the Roanoke Hospital, September 6, 1932, complaining of severe abdominal pain. The onset was on the day prior to admission, when he was taken sick suddenly with generalized pain in the abdomen, followed by slight nausea but no vomiting, although he had eaten a light supper. The morning of admission his condition had grown definitely worse. He took a purgative which he vomited promptly and vomited several times afterwards. He stated that the pain had grown much worse, involving the entire abdomen, but was somewhat more severe in the lower right quadrant. He had had several large bowel movements that day. He gave no symptoms referable to the G. U. tract, but stated that he had had several similar attacks previously.

There was nothing of importance in the past or family history. Physical examination, excepting the abdomen, was essentially negative. There was tenderness over the entire lower abdomen, but most marked over McBurney's point, accompanied by muscular spasticity. There was no distention and no masses could be palpated.

On admission the temperature was 101.4, pulse 94, respiration 22. There were 6,150 white blood cells with 84 per cent polys. The urine, except for an occasional red blood and pus cell was negative. A diagnosis of acute appendicitis was made and appendectomy performed through a right rectus incision under ether anesthesia. The appendix was found to be acutely inflamed and gangrenous. The patient was returned from the operating room in good condition. On the second post-operative day he had a severe chill lasting fourteen minutes and followed by rise in temperature to 103.2. Following this he had severe chills at frequent irregular intervals, and on the seventh post-operative day the conjunctivae were definitely jaundiced. At this time roentgen examination of chest and abdomen showed an enormously enlarged liver shadow. The patient's condition grew steadily worse, the chills became more frequent, being followed by profuse perspirations, and the jaundice became quite marked. The total white blood count ranged between 6,000 and 22,000, the polys between 67 per cent and 88 per cent throughout the illness, and the urine contained only a trace of albumin and an occasional pus cell. The temperature ranged between 99 and 105, pulse 88 to 120, and respiration 20 to 30. On the twelfth post-operative day a second roentgen examination was done, the findings indicating a subphrenic abscess. The patient was taken to the operating room and, under gas and novocain infiltration anesthesia, an incision was made over the right twelfth rib, the rib resected and the incision carried through the fascia. The subphrenic space was explored but no collection of pus found. Inspection showed an abscess about the size of a small nut on the edge of the liver. The liver was enormously enlarged and engorged. After incision and drainage of this abscess a cigarette drain was inserted and the incision closed. The patient's condition grew steadily worse

and he died several hours following the second operation.

Permission was obtained for a limited post-mortem examination. This revealed multiple abscesses throughout the liver.

REFERENCES

1. Loison, E.: Des suppurations intra et peri hepatiques. D'orgines typhlo appendiculair. *Rev. de Chir.*, 21:522, 1900.
2. Osler's Principles and Practice of Medicine, 1925.
3. Babcock: A Textbook of Surgery, 1930.
4. Quain, E. P., and Waldschmidt, R. H.: Acute Appendicitis. *Archives of Surgery*, April, 1928.

Medical Arts Building.

DIAGNOSTIC HINTS IN GYNECOLOGY.

EDWARD PODOLSKY, M. D., Brooklyn, N. Y.

Low backache, pain in the hips and down the thighs, and often pelvic soreness and distress are not uncommon symptoms secondary to foci in and about the cervix.

Stricture of the uterine cervix is manifested by persistent leucorrhea, dysmenorrhea, the passage of tarry menstrual blood and pelvic discomfort of varying intensity.

Many cases of amenorrhea have a minor pituitary aspect.

Many women with thyroid disease have an associated dysmenorrhea without demonstrable anatomic changes in the pelvic organs.

A history of repeated uterine bleeding following the expulsion of a "mole" should make one suspicious of a chorio-epithelioma.

The typical congenital, anteflexed uterus is a small uterus, with a long, conical cervix.

Pelvic peritonitis is the most common cause of retroversion of the uterus.

Developmental cysts of the vagina are always multiple, are arranged in linear fashion on the side wall of the vagina and in any part from the introitus as far up as the lateral fornix.

A pelvic abscess is usually the result of a leaking tube.

Trichomonas vaginalis is regularly found in the vaginal discharge of women complaining of offensive leucorrhea presenting a characteristic clinical picture.

Persistent vomiting in a non-pregnant woman, especially in a young one, is most likely of ovarian origin.

Look for an inflamed breast in a nursing woman who has symptoms of the grippe.

Bleeding from the uterus may not be due to local pathology. At times it is due solely to an underlying blood dyscrasia.

Leucorrhea is perhaps the most constant and the most common sign of pelvic disorder. It is the first to become manifest and the last to disappear.

An ovarian tumor, particularly one which is malignant, is usually hard and firmly adherent to the uterus, thus simulating a fibroid mass. Irregular hemorrhage is a rather common characteristic of these tumors.

Central backache is the type of backache most often associated with uterine displacement. Backache of the lumbar type is frequently extra pelvic in origin.

When carcinoma of the uterus develops before the climacteric it is usually associated with fibroids.

Stenosis of the cervical canal is quite often the sole cause of dysmenorrhea.

Pain in the lower abdomen in women is at times due to a chronic cervicitis.

When bleeding from the body of the uterus occurs during menopause it may be due to either benign or malignant pathology. The benign lesions are: Hypertrophic endometritis, fibroid polyps, fibroids, mucous polyps and rarely atrophic endometritis. Adeno-carcinoma and sarcoma are the malignant growths causing bleeding at this time.

Bearing down pain, although most frequently caused by prolapse, may also be caused by vulvo-vaginitis. Only a thorough pelvic examination will establish the real cause.

In chronic inflammation of the female pelvic organs the pain is usually aggravated for a day or more before the menstrual periods, and relieved after the flow is well established.

A very common cause of pain low down over the brim of the pelvis is a lacerated, catarrhal cervix.

Prolonged bleeding in the puerperium is quite frequently due to a retroflexed uterus.

A fibrous polypus projecting from the cervix and ulcerating, causes intermittent or continuous bleeding, and such polypi are most often found in women at or after the menopause.

One of the common causes of retention of urine in women is a cervical fibroid. This may be preceded by amenorrhea and bladder irritability for several months. The patient is usually in the late thirties and she is often nulliparous. There is usually no history of menorrhagia.

It can be stated in general that abnormal vaginal bleeding in young, unmarried women is usually systemic, while in older, married women it is more likely to be local.

Reflex dysmenorrheas occur quite frequently and are associated with some disturbance in a distant part of the body. The most common cause is some pathological condition in the nose.

Varicosities are a common cause of chronic pelvic hyperemia which is aggravated at menstrual time with severe pain, and it is nearly always overlooked as a cause.

The primary symptoms of uterine fibroids are hemorrhage, leucorrhea, pain, pressure dysmenorrhea, sterility and disturbance of pregnancy, labor or the puerperium. The secondary symptoms are anemia, thyroid and cardiovascular disorders.

All infected fibroids are painful, while uninfected fibroids are usually not painful.

An incarcerated intraligamentous growth often causes a very severe type of pressure pain. Quite often this pain is referred to the limbs.

A woman menstruating regularly at the age of fifty should be suspected of having a uterine fibroid, for fibroids have a tendency to prolong the menses.

Fibroids do not begin to cause bleeding after the change of life. They never become active after the menopause has been established.

Stellate injuries to the cervix always mean that the tearing has extended in the anterior and posterior parts of the cervix as well as to the sides.

A patient with acute pelvic cellulitis usually first complains of pain in the lower abdomen, which is greatly aggravated by movements.

Infantile genitalia usually predisposes to sterility.

Pelvic floor lacerations with relaxation, allowing the escape of spermatozoa, is often a cause of sterility.

New growths, cysts or inflammatory reactions about the ovaries may prevent the formation or expulsion of ova, and thus cause sterility.

Endocrine dysfunction is very often the cause of sterility. This should be suspected when a thorough examination reveals no other causes.

Endocervicitis with excessive secretion is a rather common cause of sterility.

Uterine displacements with adhesions about the ovaries is often the cause of sterility.

A sterility that is produced by a gonorrheal salpingitis is a permanent condition and there is no way to correct it that is successful.

Heart disease and arthritis secondary to diseased tonsils with disturbed nutrition may cause amenorrhea.

7119 *Nineteenth Avenue.*

ABDOMINAL DRAINAGE.*

SOUTHGATE LEIGH, M. D., Norfolk, Va.

Nine-tenths of the surgeons you ask will tell you that any kind of drains put into the peritoneal cavity will in a few hours be shut off by adhesions and at once cease to function.

We have proven conclusively that over-filling the blood vessels by fluid, given promptly and continuously, will delay these adhesions from three to five days, and during that time the drainage materials, if properly selected and employed, will continue to function.

By using a proper drainage material, together with a correct position of the patient, and quick and continuous over-filling of the blood vessels, many valuable lives can be saved.

The method would be more widely adopted but for the fact that it requires great effort on the part of surgeons, assistants and nurses, together with every-minute watching of the patient.

The usual cases requiring this procedure are those of ruptured appendix, with free pus in the free peritoneal cavity. In such a case the transverse incision is made, a large, soft rubber, thick walled, non-kinking tube is passed down into the pelvis, and brought out at the extreme outer end of the incision. The bed is elevated and the patient placed on the right side, so that the outer end of the tube is its lowest point.

Fluid is given by rectum by the Murphy drip, aided, if need be, by intravenous and subcutaneous injections, in as large quantities as the patient's circulation will stand. These patients have no trouble from obstruction, the bowels move easily, and they have very little if any nausea, and no distention. They take fluid diet early.

The position is uncomfortable but absolutely essential, and readily maintained when its vital importance is explained clearly to the patient.

All but moribund cases recover and have no

*Read before the Seaboard Medical Association of Virginia and North Carolina, at Norfolk, Va., December 7, 1933.

XUM

after trouble from obstruction or hernia, although they must be most careful about eating and having the bowels to move regularly and thoroughly. They require an enormous amount of attention for the first three to five days, especially in connection with maintaining the proper position and retaining the continuously injected fluids.

When we remember that the usual mortality in such cases runs as high as 33 per cent, we are stimulated to extreme efforts to give these patients close and continuous attention.

At the change of dressing, every twelve hours, it is noted in every case that, instead of the discharge ceasing or lessening, it steadily increases and grows gradually thinner. Each dressing is soaked with fluid. This is the absolute rule in every such case. The prevention of adhesions together with the position of the patient bring the septic materials down to the tube, through which they discharge. This method, while used most frequently in bad appendix cases, is applicable to others where free and continuous drainage of the peritoneal cavity is required.

For example, two of our more recent cases are, first, a typhoid perforation with a large amount of pus in the lower abdomen and pelvis, and, second, a bullet wound of the lower abdomen with four ragged holes in the small gut, requiring resection of eight niches. This latter case was brought some distance and several hours had elapsed before operation. Both made good recoveries.

As an example of a typical appendix case, we would mention in detail the following:

Ruptured appendix without adhesions, with half a pint of pus in the lower abdomen and pelvis. Transverse incision, with separation of the muscle fibers, the incision being extended far to the right by incising muscle tissue. Appendix removed and as much pus as possible suctioned out. Tube, with small perforations, passed down to bottom of pelvis and brought out at the outer end of the wound. Wound antisepticized and sutured up to tube. Very narrow gauze drain passed down inside of tube. Bed elevated and patient placed on the right side. Murphy drip of normal salt solution, using catheter in rectum and visible dropper. Rate 60 drips a minute for a few hours and then reduced to thirty a minute. Occasionally glucose is given intravenously. If in doubt about sufficient filling of vessels, saline given also under the skin. Fluids by mouth on the third day. No nausea. Dressing changed every twelve hours by surgeon himself; gauze and pads found soaked. Wick in tube renewed. Suction through tube shows no retention and demonstrates the fact that position is correct. Wound painted with alcoholic mercurochrome at each dressing. Low enemas third day with good result. No abdominal tenderness or distention. Fifth day tube shortened a little and removed seventh day, being replaced by rubber dam. Drip discontinued on the seventh day. Sinus sterilized by Dakin's solution beginning tenth day. Sutured part of wound well healed. No resulting hernia.

No cases in surgery afford greater satisfaction to the operator, and he is amply repaid for the great amount of time and effort and strict attention to every detail. With such care, every such case, unless moribund, will recover.

One thing that every surgeon should remember, and that is that acute appendicitis offers many surprises. One never knows what will be found until the abdomen is opened. Even with a moderate blood count and with little or no temperature, the appendix may be found ruptured with a small abscess located deeply surrounded by adhesions. Such a case requires great care to protect the surrounding cavity from becoming infected.

Or one may unexpectedly be confronted with a ruptured appendix with considerable pus in the free peritoneal cavity.

Such a case requires great care and the most perfect handling during and after the operation.

But with such perfect and continuous attention, a splendid result will be obtained.

Woman's Auxiliary, to the Medical Society of Va.

President—Mrs. William Lett Harris, 1112 Matoaka Street, Norfolk.
President-Elect—Mrs. Joseph Bear, 3012 Monument Avenue, Richmond.
Recording Secretary—Mrs. Fletcher J. Wright, 49 South Market Street, Petersburg.
Corresponding Secretary—Mrs. Charles A Saunders, 1000 Gates Avenue, Norfolk.
Treasurer—Mrs. Reuben F. Simms, 2034 Park Avenue, Richmond.

The Post-Graduate Medical Auxiliary

Held an open meeting at the Petersburg Hospital on January 17th. There were eighty

ladies present representing all the churches of the city.

The Auxiliary made an appeal in November to all the church Auxiliaries for supplies for hospital and the articles were brought in at this time. Mrs. H. M. Snead, retiring president of the Auxiliary was in charge of the shower and received the cooperation of all the churches.

When the articles were assembled and checked it was found that in addition to 40 single woolen blankets and a bolt of kitchen toweling, donated by the Medical Auxiliary, and already in use in the hospital, the shower gifts included: 151 sheets, 19 white crinkled spreads, 238 towels, 184 pair pillow cases, 18 woolen blankets, 115 yards of linen toweling, 110 yards of toweling for operating room, 40 yards of silence cloth, 4 bedside lamps, and $17.50 in cash. The approximate value of these articles was $570.60.

Mrs. Philip Jacobson was elected president of the Post-Graduate Medical Auxiliary at the meeting held immediately after the shower. Other 1934 officers elected then were: Mrs. H. C. Jones, vice-president; Mrs. H. M. Snead, recording secretary; Mrs. Allen Barker, corresponding secretary; Mrs. W. B. McIlwaine, treasurer.

Auxiliary to the Richmond Academy of Medicine.

Mrs. J. B. Stone has been elected president of the Richmond Auxiliary to succeed Mrs. Jas. B. Dalton, who recently resigned on account of ill health. Mrs. J. O. Fitzgerald is the new treasurer and Mrs. Fred J. Wampler the very efficient new secretary. Please, Richmond women, give your loyal support to these officers who have agreed to shoulder the responsibility of our organization for the coming year!

At the regular February meeting of the Auxiliary to the Richmond Academy of Medicine the members were addressed by the President of the Academy, Dr. Joseph Geisinger. This was a high light in our recent history, and the timely advice and words of encouragement and appreciation were most gratefully received. Dr. Geisinger pointed out some dangerous pitfalls which we shall earnestly try to avoid, but he also pointed the way to specific work to which we may safely bend our interest and energy. At the next meeting the suggestions of Dr. Geisinger will be discussed and definitely acted upon by the Auxiliary.

Our group is deeply grateful to Dr. Geisinger for this heart-to-heart talk from him as a representative of the Academy. As an Auxiliary to the Academy we wanted to feel *necessary*, not just an organization with no excuse for being. The President has made us feel more sure of our standing with the Academy and has given us more of an incentive for working with our husbands toward a common goal.

Truth About Medicine

In addition to the articles previously enumerated, the following have been accepted:

Fairchild Bros. & Foster
- Soluble Stomach Extract (Fairchild).

Gilliland Laboratories, Inc.
- Rabies Vaccine—Gilliland (Semple Method), 14 vial package.

Hynson, Westcott & Dunning
- Ampules Solution Antimony Thioglycollamide, 0.4 per cent, 10 c.c.
- Ampules Solution Antimony Sodium Thioglycollate, 0.5 per cent, 10 c.c.

Lederle Laboratories, Inc.
- Tablets Cod Liver Oil Concentrate (Lederle).

Eli Lilly & Co.
- Metycaine
  - Ampoules Metycaine 1%, 1 c.c.
  - Ampoules Metycaine 2% and Epinephrine (1:25,000), 1 c.c.
  - Ampoules Metycaine 2% and Epinephrine (1:50,000), 2.5 c.c.
  - Solution Metycaine 2%.
  - Tablets Metycaine, 0.15 Gm.

E. S. Miller Laboratories
- Ampoule Sterile Solution Dextrose, U. S. P., 50 Gm., 100 c.c.
- Ampoule—Vial Sterile Solution Dextrose, U. S. P., 10 Gm., 20 c.c.
- Ampoule—Vial Sterile Solution Dextrose, U. S. P., 25 Gm., 50 c.c.
- Ampoule—Vial Sterile Solution Dextrose, U. S. P., 50 Gm., 100 c.c.

National Drug Company
- Refined Diphtheria Toxoid (Alum Precipitated).

Parke, Davis & Co.
- Ventriculin, 500 Gm. bottle.
- Soluble Gelatine Capsules—Parke-Davis Haliver Oil, Plain, 3 minims.

Schering & Glatz, Inc.
- Urotropin
  - Tablets Urotropin 5 Grains (0.33 Gm.)
  - Tablets Urotropin 7½ Grains (0.5 Gm.)
- Euphthalmine Hydrochloride.

E. R. Squibb & Sons
- Refined Diphtheria Toxoid Alum Precipitated—Squibb.

Ucoline Products Co.
- Ucoline Standardized Cod Liver Oil.

Propaganda for Reform

Valerian in Therapy.—Today valerian is recognized as having but little virtue, if any, in disease, such power as it has being largely psychic effects resulting from the impression created by its appeal to the sense of smell. Now attention is again called to this preparation by the fact that the health commissioner of New York has placed the sale of valerian and all its derivvatives under strict control, so that they may now be sold only on prescription by licensed physicians and veterinarians. Strangely, however, this control is exercised not because of any remarkably potent value or any lack of virtue attaching to valerian in the field of medicine, but simply because its odor is so all pervading, so penetrating and obnoxious that it has come to be the chief constituent of what is commonly called a "stink bomb." Thus the control of valerian is not induced by its medical uses but is instead to be a curb on racketeering in which "stink bombs" constitute a significant part of the materia racketeeria (Jour. A. M. A., September 23, 1933, p. 1004.)

Contamination of Fruits and Vegetables with Toxic Insecticide Spray Material.—The Committee on Foods reports that distributors of fruits and vegetables that may bear toxic spray material are obligated to remove such poisonous contaminations before they enter commerce for retailing to the public, or to warn food manufacturers of the possible presence of the spray residue. Food manufacturers using fruits and vegetables should take proper precautions either to assure the absence of toxic spray contaminations or their removal before the products are prepared or packed for consumption. Distributors of fresh fruits and vegetables and manufacturers of foods containing these products bear a serious responsibility to the public that their products as presented for consumption are entirely wholesome; carelessness or disregard of this public health responsibility is criminal. (Jour. A. M. A., October 21, 1933, p. 1316.)

Mineral, Spring, Natural or Alkaline Waters.—The Committee on Foods reports that mineral, spring, natural or alkaline waters are usually advertised with unwarranted claims as to their health values. Analyses of most of these waters do not disclose explanations or evidence for remarkable curative properties. In case of potable mineral waters their mineral content comprises traces only of commonly occurring salts present in substantially greater quantities in ordinary foods. Such characteristics as radioactivity or the presence of lithium in drinking water have not been shown to have useful effects. Strongly radioactive waters may be distinctly harmful. Natural waters contain only traces of lithium. Larger doses of lithium may be dangerous. The committee reports further that therapeutic or curative claims for mineral waters that are not laxative are to be viewed with suspicion, and that the daily water requirements for health cannot be defined with any degree of exactness, as activity, temperature and other conditions influence the demands. (Jour. A. M. A., October 21, 1933, p. 1316.)

Acceptance of Sunlamps.—During the past seven years the Council on Physical Therapy has devoted much time and effort to the question of ultraviolet radiation therapy, and in two preliminary statements gave its conclusions and its specifications for acceptance of "sunlamps." Sunlamps, so called, are not to be confused with therapeutic ultraviolet generators designed for service in hospitals, clinics and offices of physicians. Since sunlamps are for unsupervised home use, they are often of low intensity to avoid injury from overdosage. In accepting sunlamps, the Council on Physical Therapy calls the attention of the profession to the following: A. The Council on Physical Therapy definitely withholds acceptance of the postulatory principle of dual-purpose lighting, because it is highly theoretical and acceptable clinical evidence substantiating its therapeutic or prophylactic value has not been presented. B. The Council on Physical Therapy declines to accept sunlamps if the manufacturer fails to state in all advertising matter and descriptive literature the distance between the lamp and the recipient required to equal the intensity of midday, midsummer, midlatitude, sea level, natural sunlight. C. The manufacturers of acceptable sunlamps for home use have agreed to discontinue objectionable claims, such as that exposure to ultraviolet rays increases or improves the tone of the tissues or of the body as a whole, stimulates metabolism, acts as a tonic, increases mental activity, maintains health or tends to prevent colds, because these claims have not been conclusively substantiated by experimental evidence. D. Until further evidence is presented to prove otherwise, the Council declares that the erythema test is the only means of determining whether appreciable ultraviolet is emitted by the source. (Jour. A. M. A., January 6, 1934, p. 42.)

Antipneumococcus Serum Containing Type II Antibodies.—The Council on Pharmacy and Chemistry reports that recently there has been brought to its attention evidence that with improved preparations and technic the experimental use of antipneumococcus serum containing type II antibodies or of preparations containing this antibody in combination with type I is justified. The Council therefore voted to consider the acceptance of these preparations, and voted to inform firms manufacturing the antipneumococcus serum of this decision. (Jour. A. M. A., December 16, 1933, p. 1968.)

Book Announcements

Case Studies in the Psychopathology of Crime. By BEN KARPMAN, M. D., Psychotherapist, St. Elizabeth's Hospital, Washington, D. C.; Professor of Psychiatry, School of Medicine, Howard University, Washington, D. C. Published in a limited edition by the Mimeoform Press, Washington, D. C. Large octavo of two volumes, 1042-x pages. Price, $12.00 net, prepaid.

Crime and criminals we have had with us always. The crime problem may depend upon the shifts and changes in laws and mores for its recurring waves of intensity, but the fact of its existence is an eternal challenge to every citizen.

What the law thinks about the criminal covers myriad pages and often makes dry reading.

What the criminal thinks about the law is written in a luridly different language, and is quite illuminating at times.

The criminal is allowed to tell his own story in this book by Dr. Karpman, psychotherapist at St. Elizabeth's Hospital in Washington, D. C., and professor of psychiatry at Howard

University. The author states in the preface: "The present study is an attempt to gain an understanding of some problems of criminality through an intensive study of the lives of individual criminals, seeking particularly to uncover such psychogenic factors as may be found behind the criminal reactions proper." The method employed is the presentation of case studies on each of five patients confined for observation in St. Elizabeth's as "criminally insane."

The case records consist of the official record, the case history written by the patient, anamnesis and observations, patient's letters and follow-up in some instances, and the epitome. After the patients' case histories had been written unaided, questionnaires were made out and the new information incorporated into the original until the histories were "satisfactorily completed." The material was presented so as to adhere as closely as possible to the original, though it was necessary to transcribe "into the language that would be true to the meaning of the text and at the same time not offend the reader's ear." The patients were arrested on the following charges: robbing the American Railway Express Co., cashing brother's adjusted compensation certificate, attempted sodomy, impersonating a U. S. officer and attempting to extort money, and forgery of checks and impersonating a U. S. officer.

These case studies present a mass of interesting material. Judges, penologists, probation officers and law-makers should find food for thought in the patient's attitudes toward their own crimes, toward other criminals, and their reactions to court procedures and present penal practices. When the patients comment on the present prison systems, they feel that it has been grossly inadequate, at least in their own cases. Clinical psychiatrists, psychologists and social workers will be struck by the lack of information to serve as an adequate and accurate background against which case histories may be studied. The biographies are so much involved in delineating events leading up to the present status that the accounts of the childhood period are almost invariably inadequately treated. The possible exception is Case I.

Judgment of the value of this book should be reserved until the author shall have published a parallel volume which, he states, is planned in the near future under the title, "*The Individual Criminal.*" The present volume should prove for the author a valuable source book for the other book which we hope will attempt to summarize conclusions suggested by the present work. As it now stands, the reader is left with blurred impressions. We do not feel that we understand the individuals, nor is there any summary as yet to point out general trends in the development of criminal psychopathology. The author nowhere states just why these cases were chosen, whether typical of the group at Howard Hall or because of a certain similarity (most of these patients had at some time been diagnosed as psychopathic personalities) within the group or because of the possibilities of more accurate checks on their accounts. The analyses of the biographies by William Brandon, another patient, are helpful additions to the book in pointing out the discrepancies, contradictions, and limitations as they are presented in the bulk of the book. Until Dr. Karpman's supplementary work appears, we will be at a loss to know what is wheat and what is chaff in the raw material he has here presented.

The book, as an addition to studies of crime and criminals, will be most interesting to those whose contacts with this field come by the "armchair methods." It seems doubtful if much of it, except the sections on prison reforms suggested by the patients, will be new to persons who have dealt with prisons to any great extent.

In this review we do not feel adequate to summarize the material presented since it is doubtful if case histories of individuals can ever be adequately summarized in a few sentences or a paragraph. The ultimate value of this book will depend on the forthcoming parallel work by Dr. Karpman. Progress in understanding the individual criminal is made by steps such as this. One should make every effort to encourage and support the scientific spirit, for who can tell what strides may yet be taken?

HARVIE DEJ. COGHILL, M. D.
and
EVELYN ATKINSON, M. A.

The National Society for the Prevention of Blindness. Home Treatment of Eyes. Contact Glasses. Eyesight in Mental and Physical Development. The Eyes in Infancy and Childhood. Why Wear Glasses? Pamphlets published by the National Society for the Prevention of Blindness, 450 Seventh Ave., New York City. Ranging in price from 5c to 10c.

Virginia Medical Monthly

Founded by LANDON B. EDWARDS, M. D., April, 1874
Owned by MEDICAL SOCIETY OF VIRGINIA since November, 1919
WYNDHAM B. BLANTON, M. D., *Editor*
AGNES V. EDWARDS, Richmond, *Business Manager*

PUBLICATION COMMITTEE
WYNDHAM B. BLANTON, M. D., Richmond, *Chairman*
J. H. NEFF, M. D., University H. A. TABB, M. D., Gloucester

All correspondence regarding editorial matters, articles, advertisements, subscription rates, etc., should be addressed to the Monthly, 1200 East Clay Street, Richmond, Va.
This journal is not responsible for the opinions and statements of its contributors.
All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.
Subscription Price: $2.00 per annum in advance. Single Copies 25c.

VOLUME 60 MARCH, 1934 No. 12

Editorial

Hemidecerebrated Human Beings.

Although our conception of the brain as the seat of intelligence extends back to the time of Claudius Galen in the Second Century A. D., and although much progress in cerebral localization has been made particularly in recent years, we are still at loss to explain the function and interrelation of great areas in the human cerebrum. Latterly Walter E. Dandy (*Bulletin of the Johns Hopkins Hospital*, July, 1933) reports that he has removed the entire right cerebral hemisphere in three patients without disturbance of the thought processes in any one of them. To this operator it is "most disappointing" to find "that some functions of the brain are not stored or at least are not activated there." These disclosures are intensely interesting. Although familiar with experiments upon decerebrated frogs and pigeons and with the behavior of Goltz's dogs, it is difficult for us to realize that the human being can survive the loss of an entire cerebral hemisphere. To be told that he can survive it without demonstrable mental defect is even more astonishing. Postoperatively all of Dandy's cases showed hemiplegia and hemianesthesia but he reports that they were perfectly oriented and memory was unimpaired, that they were able to write, read and handle figures accurately, that they were coherent and free from abnormal mental states such as phobias, delusions, hallucinations, melancholia and expansive ideas. The fact that none of these patients survived operation many months may be important in the mortality statistics of neurological surgery but this minimizes in no way the interest Dr. Dandy's paper has for the student of the physiology of the brain.

Roux and Calmette.

The passing within recent months of two eminent French men of science, Emile Roux and Albert Calmette, has brought forth expressions of world wide regret and sorrow. With Metchnikoff, Yersin, Chantemesse and Chamberland they were among the most brilliant of Pasteur's pupils. Each of them achieved fame in his own right—Roux discovered the organism of peripneumonia in cattle, and in collaboration with Yersin isolated the toxin of diphtheria and later demonstrated the possibilities of diphtheria antitoxin. Calmette gave to the world antivenom, tetanus antitoxin and a new and promising approach to the problem of prophylaxis in tuberculosis.

The Sesquicentennial of the New Haven County Medical Association.

On Janury 5, 1784, a group of Connecticut physicians meeting in the "Coffee House" of New Haven organized the New Haven County Medical Association. After one hundred and fifty years of continuous existence this association has properly celebrated that notable event.

The Yale Journal of Biology and Medicine (January, 1934) is devoted to the fine things that were said on this occasion. Here appears an account of the history of the society, a facsimile reproduction of its original transactions—the first medical transactions to be published in America—as well as an address on *Medical Societies, Past and Present*, by Henry E. Sigerist, Director of the Institute of the History of Medicine of John Hopkins University. We congratulate the New Haven County Medical Association upon its long and enviable career.

Last Year's Progress.

George F. Dick commenting in *The 1933 Yearbook of General Medicine* upon important progress made during 1933 in the knowledge of the infectious diseases places emphasis upon three advances: (1) The growth in pure culture of the virus of variola and its practical use in the prevention of smallpox; (2) the increasing evidence of the value of scarlet fever toxin and antitoxin in prevention and treatment; and (3) the accumulation of bacteriological and serological evidence in support of the belief that the streptococcus hemolyticus rather than the streptococcus viridans is the etiological factor in infectious arthritis.

Epidemic Amebiasis.

During the summer of 1933 sixteen thousand guests registered at two Chicago hotels. Heavy rainfall about the last of June flooded the sewers and quantities of contaminated water overflowed the basement of one of these hotels, submerging the ice storage house. A few days later the breaking of two sewers in the other hotel flooded its ice house as well as its entire food handling establishment. Hard on these events cases of amebic dysentery began to develop among the personnel and guests of the hotel. The proportions of the epidemic became alarming. Up to the time of this writing no less than 774 cases of amebiasis with forty-two deaths have been reported among the summer patronage of these hotels. Most of the cases did not appear until they had returned to their homes in distant cities of the country. The epidemic took a toll of fourteen lives in Chicago and left 1,130 carriers in its wake.

Until now infected food has been considered the usual conveyor of the entameba histolytica, but in the light of the Chicago epidemic the possibility of water borne infections will have to be given serious attention in future outbreaks.

The results of several surveys indicate that from 3 to 5 per cent of the population is normally infected with the entameba histolytica. It is surprising that the disease has not assumed epidemic proportions oftener. It would seem that with such a high incidence of carriers among the population at large in the future particular attention should be paid to the identification and control of carriers among food handlers. Apparently this is not practicable on a large scale at the present time. It is probable that a great many people repeatedly and successfully withstand exposures to infection with the entameba histolytica. It is only when enormous quantities of infectious material are ingested, as must have been the case in the Chicago epidemic, that a high percentage of the exposed individuals develop the disease clinically.

Strange as it may seem, there appears to be still in existence in most of our cities antiquated plumbing which permits back syphonage from toilet fixtures into water lines as well as hazardous cross-connections between sewer and water lines. These conditions are said to have obtained in the Chicago hotels. With their bitter experience before us it is hoped that a more general employment of the sanitary engineer will make a repetition of such a calamity impossible.

Department of Clinical Education
OF THE MEDICAL SOCIETY OF VIRGINIA

Peninsula Courses Well Begun.

The rolls for the six classes in prenatal and postnatal care extending from Richmond to Hampton show a total membership of sixty-seven during the first four meetings of the course. Ten of the enrollments of Richmond physicians are those who were members of previous courses at the beginning of Dr. Lapham's work in Virginia.

The first tangible evidences of successful organization of a class are the enrollment and the rate of attendance. Four of the six groups,

those in Newport News and Williamsburg and the two classes of colored physicians in Richmond and Newport News, have the very commendable attendance record of over 80 per cent. The average for all the groups coincides almost exactly with that for previous classes, 78.4 per cent. The colored physicians in the special Newport News class, who have enrolled every practitioner of their race in the community, have the best attendance record, the high rate of 87.5 per cent.

New additions to several of the classes are as follows:

Williamsburg: New member—Dr. W. S. Cox.

Hampton: New members—Drs. F. S. Bacon and C. B. Shrout.

Richmond: New members—Drs. M. H. Eames, Horace Hoskins, A. W. Lewis, J. N. DeShazo, B. L. Reams. Visitor—Dr. C. C. White.

Richmond (Colored): New member—Dr. R. W. Davis. Visitors—Drs. H. A. Allen and W. H. Dixon.

Plans for the Ninth Circuit.

Dr. N. M. Canter, President of the Rockingham County Medical Society, has reported the unanimous approval by that group of a course in prenatal and postnatal care to begin on March 26th. A committee composed of Drs. A. C. Byers, B. S. Yancey and W. W. Koontz, has been appointed to take charge of organization and of arranging for patients for demonstrations.

Other points to be combined with Harrisonburg in Dr. Lapham's ninth circuit are Luray, Front Royal, Woodstock and Winchester. The Front Royal group, with an advance enrollment of seven members secured by Dr. D. M. Kipps, Chairman of the local committee, is already well organized. Committee members for the other centers are as follows: Winchester—Dr. B. B. Dutton; Luray—Dr. G. H. Long; and Woodstock—Dr. C. H. Spiggle. Drs. C. O. Dearmont and J. G. Brown are heads of committees on organization for Clarke and Rappahannock Counties, respectively.

Geo. W. Eutsler,
Secretary, Joint Committee.

Proceedings of Societies

The Elizabeth City County Medical Society,

In a special meeting on January 29, 1934, adopted two resolutions. The first was a resolution originally sponsored by Dr. M. B. Hiden, of Warrenton, concerning Fees to Physicians as Witnesses. This was adopted in its original form by unanimous vote, signed by each member of the Society and a copy sent to each of our two representatives in the General Assembly. The second resolution was to protest against the so-called DeJarnette Bill, urging our representatives to vote against it and to vote for the legislation being introduced by the Medical Society of Virginia. This resolution was also signed by each member of the Society and copies were sent to Mr. Holt and Mr. Massenburg in Richmond.

The new officers of the Elizabeth City County Medical Society for 1934 are as follows: president, Dr. Eldred S. Jones, Hampton; vice-president, Dr. Harry D. Howe, Hampton; and secretary-treasurer, Dr. Robert H. Wright, Jr., Phoebus.

These officers were elected at a meeting in December. We anticipate holding regular meetings twice monthly and expect to put some life in our Society again.

Robert H. Wright, Jr.,
Secretary.

Smyth County Medical Society.

At a meeting of the physicians of Smyth County in Marion, Va., on February the 14th, it was decided to organize a county medical society to be known as the Smyth County Medical Society. The following officers were elected: President, Dr. A. B. Graybeal; vice-president, Dr. Carolyn Sherrill; and secretary-treasurer, Dr. E. A. Holmes. All officers are of Marion. Those attending this meeting were: Drs. T. K. McKee, Saltville; R. E. Hughes, North Holston; W. O. Neal, Chatham Hill; Carl F. Coffman, Sugar Grove; George D. Pettit, Chilhowie; and Drs. D. C. Boatwright, Willis M. Sprinkle, W. H. McCarty, George A. Wright, Stuart Staley, A. D. Hutton, James K. Gray, A. B. Graybeal, Carolyn Sherrill and E. A. Holmes, all of Marion. All those attending this meeting became charter

members and it is expected that others may join before the next meeting in March, when Dr. Southgate Leigh, of Norfolk, will address the Society.

The Roanoke Academy of Medicine

Held its regular meeting on February 5th at the Elks Club, in Roanoke, Va. The program was as follows:

Bronchial Fistula, Spontaneous Recovery—Dr. Harry Golston.

Problems in Trans-Urethral Surgery—Dr. S. Beverly Cary.

Pneumonia with Displacement of Heart and Mediastinum: Case Report—Dr. Blanton P. Seward.

Friedreich's Ataxia, Transitional Stage Tending to Marie's Disease: Two Cases—Drs. Charles A. Young and Thomas N. Spessard.

Three new members were elected to the Society: Dr. Hal Davis and Dr. H. Rudolph Hartwell of Roanoke, and Dr. S. J. Driver, Troutville.

The chairman of the Program Committee announced that the next meeting would be a special meeting on February 19th, at the Shenandoah Hospital, and that on March 5th the regular meeting would be a dinner meeting and Drs. Wm. B. Porter and Carrington Williams, of Richmond, would read papers.

Dr. E. C. Ambler and Dr. Mortimer H. Williams, both of Roanoke, are president and secretary-treasurer, respectively.

The James City-New Kent Medical Society,

At its meeting in February, re-elected Dr. J. R. Parker, Providence Forge, as president: Dr. J. R. Tucker, Williamsburg, as vice-president; and Dr. L. V. Henderson, Toano, as secretary-treasurer. At this meeting it was voted to change the fiscal year from February to December so that the time for the incoming officers would conform with that of most of the societies in the State.

Princess Anne County Medical Society.

The new officers of this Society are President, Dr. Robert W. Woodhouse, Virginia Beach, and secretary, Dr. Cora Z. Corpening (re-elected), also of Virginia Beach. This Society reports for the past year, one death, Dr. N. A. Nicholson, and one new member, Dr. I. L. Hancock.

News Notes

Physical Survey of C. W. A. Employees in Virginia.

With the purpose of protecting workmen from avoidable injury or disease and the Government from future unjustifiable claims for compensation, a physical survey of the great army of C. W. A. employees in Virginia will be undertaken and will be extended to all others who may be added to this group in the future. It is probable that a similar survey will be made in other states, in which event the Virginia plan, if successful, will in all likelihood be adopted as a model for the rest of the country.

At the present time there are about 69,000 C. W. A. employees in Virginia and the practical details of instituting a medical examination of these men constitute a problem of momentous proportions. The Civil Works Administration of Virginia, through its State Safety Director, Col. William M. Myers, has exhibited a desire to place the direction of this work in the hands of the physicians themselves. A State Medical Advisory Board was, therefore, at once created for the purpose of elaborating a working system which has now been promulgated and the essential feature of which is to leave the selection of examiners along with any other associated details to the local medical organizations throughout the State or the local health units where no such medical organizations exist. A communication conveying these facts, and also more specific details with reference to the plan suggested by the Medical Advisory Board, has been forwarded from the headquarters of the Civil Works Administration of Virginia to every county in the State. Acting upon this communication, the local organization, or health unit, will be expected to canvass its own territory, select examiners, and immediately establish contact with the State Safety Director of the C. W. A., who will then forward necessary blanks and detailed instructions. Prompt response on the part of local organizations will be imperative, as work must be instituted immediately and completed at the earliest possible date.

XUM

The object of the Federal Government is two-fold: On the one hand it desires to protect itself from future unwarranted or unnecessary claims for compensation by determining the physical condition of an applicant and the present employees. More particularly, however, it wishes to protect the employees themselves. In an increasing number of instances, injury, disease, and even sudden death, have occurred among employees and could probably have been avoided if disabling defects in these unfortunates had been realized before they were allowed to go to work upon projects unsuited to their condition. The examination necessary to disclose gross defects of this type is not complicated or time-consuming. For this service a fee of seventy-five cents for each examination will be paid out of Government funds to all physicians acting as examiners. It is emphasized that the survey is primarily in the interest of the protection of American citizens from injury, disease, or death, and hence implies competence on the part of the examining physician. Assuming this competence, however, it is the desire of the Government that the work, with its compensation, shall go as far as practicable to those physicians who are themselves most in need. The State Medical Advisory Board, which has been called together by Col. Myers, and which will continue to function in an advisory capacity, is composed of: Dr. Joseph F. Geisinger, president of the Richmond Academy of Medicine, chairman; Dr. Warren F. Draper, Health Commissioner of Virginia; Dr. R. D. Bates, president of the Medical Society of Virginia; Dr. F. J. Wampler, who is being loaned by the Medical College of Virginia to act as a field representative of the Safety Director's office; Dr. Fred P. Fletcher, of Richmond, who has recently been instrumental in setting up a first-aid service in every county in Virginia; Dr. W. H. Parker, of Richmond, who has devoted much time and thought to the study of similar problems; and Maj. J. B. Anderson, of Richmond, who has done likewise in connection with his work in the medical corps of the U. S. Army.

The Richmond Academy of Medicine is the first organization in the State to express its official attitude toward this project. At a recent meeting it voted its cordial cooperation to the Civil Works Administration of Virginia and appointed committees to proceed at once to select examiners and to arrange, and oversee throughout, all the details of the survey in the territory embraced by this organization.

The Tri-State Medical Association of the Carolinas and Virginia

Held its annual meeting at Charlottesville, Va., February 12th, 13th and 14th, under the presidency of Dr. Francis B. Wilson, of Charleston, S. C. The splendid clinics in the main amphitheater of the University Medical School added greatly to the interest of this session. At the request of the Association, there was no public entertainment. A number of new members were admitted.

Charlotte, N. C., was selected as the 1935 place of meeting and the following officers were elected: President, Dr. Paul V. Anderson, Richmond, Va.; vice-presidents, Dr. H. S. Hedges, Charlottesville, Va., Dr. Clyde M. Gilmore, Greensboro, N. C., and Dr. Junius H. Taylor, Columbia, S. C. Dr. J. M. Northington, Charlotte, N. C., was re-elected secretary-treasurer.

Superintendent at Epileptic Colony.

Dr. George B. Arnold, acting superintendent at the State Colony for Epileptics and Feebleminded since the resignation of Dr. John H. Bell, was elected superintendent of the Colony by the General Hospital Board at its meeting in Richmond in February. Dr. Arnold is an alumnus of the University of Virginia, Department of Medicine, class of '27, and did postgraduate work at the University of Cincinnati, College of Medicine.

Dr. R. L. Mason,

Roanoke, Va., was recently appointed Assistant Surgeon in Chief, Sons of Confederate Veterans, for 1933-34. This appointment was made by Walter L. Hopkins, of Richmond, Commander-in-Chief, S. C. V.

Dr. John R. Gill,

For several years connected with the staff of Central State Hospital, Petersburg, Va., has located at Mathews, Va., for general practice.

Dr. W. D. Kendig,

Kenbridge, Va., has been elected chairman of the Democratic committee of Lunenburg County, Va., to fill the vacancy caused by the recent death of Dr. E. L. Kendig.

Dr. W. C. Harman,

Dolphin, Va., recently spent a vacation at Daytona Beach and Jacksonville, Fla.

The 1934 Post-Graduate Course

Of the Gill Memorial Eye, Ear and Throat Hospital will be held in Roanoke, Va., April 9th-14th. The following have already been enrolled:

Dr. H. C. Fulton, Lancaster, Pa.
Dr. I. E. Rowland, Charleroi, Pa.
Dr. Frank Vierling, Knox, Pa.
Dr. G. L. Dailey, 618 N. Third St., Harrisburg, Pa.
Dr. A. W. Shewman, Temple Bldg., New Castle, Pa.
Dr. R. G. Campbell, 328 Highland Ave., New Castle, Pa.
Dr. T. R. Gaines, Anderson, S. C.
Dr. B. R. Burke, Atlanta, Ga.
Dr. S. M. D. Marshall, Milford, Del.
Dr. O. H. Bobbitt, Charleston, W. Va.
Dr. E. Vermillion, Welch, W. Va.
Dr. O. C. Kendrick, Tallahassee, Fla.
Dr. J. C. Chandler, 205 York St., Tampa, Fla.
Dr. Wm. Patterson, 205 York St., Tampa, Fla.
Dr. B. W. Lowry, 205 York St., Tampa, Fla.
Dr. G. E. Campbell, Johnson City, Tenn.
Dr. M. A. Lackey, High Point, N. C.
Dr. R. G. Jennings, Thomasville, N. C.
Dr. W. M. Joyce, Middletown, Conn.
Dr. C. D. Townes, 610 Heyburn Bldg., Louisville, Ky.
Dr. C. T. Wolfe, 902 Heyburn Bldg., Louisville, Ky.
Dr. E. W. Troutman, 21 E. State St., Columbus, O.
Dr. B. W. Egan, Loganport, Ind.
Dr. O. G. Brubaker, 111 E. Main St., North Manchester, Ind.
Dr. J. T. Cater, 401 S. Court St., Montgomery, Ala.
Dr. R. E. Repass, Miami Beach, Fla.
Dr. J. R. Vermillion, Princeton, W. Va.

Post-Graduate Clinic.

The spring post-graduate clinic of the Medical College of Virginia will begin on the night of April 2nd when Dr. Frank Charles Mann, of the Mayo Foundation, will give the first of his two lectures under the Stuart McGuire lectureship. The clinic will extend throughout the day of Tuesday, April 3rd, and be concluded with Dr. Mann's lecture on Tuesday night. A complete program will be announced later.

Dr. Mann is a widely known and appreciated medical investigator. His lectures will be devoted to The Anatomy and Physiology of the Liver and the Experimental Pathology of the Liver.

Married.

Dr. Marvin Longworth Slate, High Point, N. C., an alumnus of the former University College of Medicine, Richmond, Va., and Miss Marion Wolfersberger, Baltimore, Md., December 23rd.

Dr. Hugh C. Henry,

Superintendent of Central State Hospital, Petersburg, Va., has been appointed by Governor Peery as a member of the Governor's Advisory Board on Mental Hygiene. His appointment is for four years, effective February 1, 1934. Other members of this board are Dr. Wm. F. Drewry, Dr. R. Finley Gayle, Dr. James H. Royster, Dr. James Asa Shield, Dr. Harvey DeJ. Coghill, Dr. James K. Hall, all of Richmond, and Dr. Geo. W. Brown, Williamsburg.

Dr. Jean Jones Perdue,

Daughter of Dr. and Mrs. J. Bolling Jones, of Petersburg, Va., recently located at Miami Beach, Fla., where she is associated with Drs. C. Frederic Roche and Harold A. Ryan, at 1213 Lincoln Road, for the practice of internal medicine. Dr. Perdue is an alumnus of the University of Virginia, Department of Medicine, class of '32.

Doctors on Richmond T. B. Association Board.

At the meeting of the Richmond (Va.) Tuberculosis Association and Camp Harrison Auxiliary, early in February, Drs. P. D. Lipscomb and Kinloch Nelson were elected as two of the vice-presidents, and Drs. Robert C. Bryan, E. C. Harper and S. A. Anderson, Jr., were re-elected as directors.

Transferred to Camp Fort Eustis.

Acting Assistant Surgeon A. H. Smith has been assigned as Chief Medical Officer at the Federal Correctional Camp at Fort Eustis, Va., upon the relief and transfer of Passed Assistant Surgeon (R) R. P. Hagerman, early in February.

Officers in Lexington Group.

At the annual meeting of the Frank Paxton Sons of Confederate Veterans held recently in Lexington, Va., Dr. Reid White, Jr., was elected surgeon and Dr. E. P. Tompkins historian of the camp. Both doctors are of Lexington.

Medical College of Virginia News.

The Saint Philip Hospital Clinic for Negro physicians will be held again this summer at the Medical College of Virginia. This work is subsidized by the General Education Board of New York, this being the fourth year the clinic has been held.

The number of patient visits to the outpatient department for the month of January totalled 5,464.

President W. T. Sanger attended the annual meeting of the Association of Virginia Col-

XUM

leges in Roanoke, February 9th and 10th. While in Roanoke he also addressed a meeting of alumni.

The regular monthly meeting of the faculty and staff of the College was held February 8th. The program was as follows:

Dietary Regulations in Uncomplicated Diabetes, by Dr. Harry Walker with discussion opened by Dr. Powell Williams.

Problems of Common Interest to Medicine and Dentistry, by Dr. Harry Lyons.

Factors in Inheritance, by Dr. St. George T. Grinnan.

Mr. D. E. Seagle, of Pulaski, a member of the State Board of Pharmacy, was a recent visitor to the college.

Dr. Frank Charles Mann, professor of experimental surgery, Mayo Foundation, will deliver the Stuart McGuire lectures for the current year on the nights of April 2nd and 3rd at the Medical College of Virginia, Richmond. Dr. Mann's subjects will be The Anatomy and Physiology of the Liver, and Experimental Pathology of the Liver.

The Stuart McGuire lectureship, inaugurated during the session 1929-30 in recognition of Dr. McGuire's service as teacher and president of the Medical College of Virginia, has been filled thus far by Dr. William J. Mayo, Rochester, Minnesota; Dr. S. A. Mitchell, University of Virginia; Dr. James S. McLester, University of Alabama medical school, and Dr. Ronald T. Grant, University College Hospital medical school, London.

News From University of Virginia, Department of Medicine.

At the meeting of the University of Virginia Medical Society on January 15th Dr. Oscar Swineford spoke on the subject of Serum Sickness; Dr. William Brumfield spoke on Transmission of Syphilis.

Dr. John D. Ferrell, Assistant Director of the International Health Division of the Rockefeller Foundation, visited the Medical School on January 16th.

On February 5th, Dr. H. B. Mulholland spoke before the Medical Society of the Southside Community Center at Farmville on the subject of Treatment of Diabetes.

The thirty-sixth annual session of the Tri-State Medical Association of the Carolinas and Virginia with Graduate Clinics of the University of Virginia Medical Faculty was held at the Medical School on February 12th to 14th.

News Notes from Duke University School of Medicine and Duke Hospital.

On January 26th Dr. George L. Streeter, of the Carnegie Institution, Department of Embryology, Baltimore, Md., gave a lecture at Duke Hospital on Foetal Amputations.

On February 9th Dr. E. F. Lowry, of the United States Navy Recruiting Station, at Raleigh, N. C., delivered a lecture on the subject of A Medical Career in the Navy.

On February 17th Dr. Charles D. Lucas and Dr. Fred W. Stewart, of the Memorial Hospital for the Treatment of Cancer and Allied Diseases, New York City, gave a clinic on Cancer.

The following appointment has been made: Dr. Raymond S. Crispell, Associate Professor of Neuropsychiatry, Duke University School of Medicine, and Psychiatrist, Duke Hospital. Dr. Crispell received his A. B. and M. D. degrees from Cornell University in 1917 and 1920. He served on the staff of Bloomingdale Hospital and was Instructor in Neuro-anatomy at Cornell from 1920 to 1923; was House Physician and Resident Neurologist at Bellevue Hospital, New York City, from 1921 to 1923; Fellow in Neurology, University of Utrecht, Holland, 1925, and Medical Director, Sahler Sanitarium, Kingston, N. Y., from 1926 to 1933.

Dr. Euclid Neal,

Who practiced for sometime at Big Island, Va., has located at Alta Vista, Va.

Dr. Peter B. Pulman,

Alexandria, Va., who returned early last summer from Porto Rico where he was connected with the medical staff of the Maryland Casualty Company, has accepted the position of a surgical advisor with the Aetna Life Insurance Company as a full time employee and has entered upon his new duties in the New York City offices.

Dr. Robert Whitehead,

Who has practiced for some time in Richmond, has moved to Victoria, Va.

XUM

Special Lectures at N. Y. Polyclinic Medical School and Hospital.

The following special lectures were given at the New York Polyclinic Medical School and Hospital:

On Wednesday, January 10th, Certain Considerations in Pneumonia in Children, by Dr. Walter H. Levy.

On Tuesday, February 6th, Diagnosis and Treatment of Endocrine Conditions in Infants and Children, by Dr. Murray B. Gordon, Professor of Clinical Pediatrics at the Long Island College of Medicine.

On Wednesday, February 14th, Lobar Pneumonia, by Dr. Russell L. Cecil, Professor of Internal Medicine at the New York Polyclinic Medical School and Hospital.

On Friday, February 23rd, Atelectasis as a Common Post-Operative Condition, by Dr. James S. Edlin.

These were all open to the medical profession.

Unusual Record.

Following publication in the newspapers recently of a case where a baby weighed 18½ pounds at birth, Dr. R. S. Griffith, of Waynesboro, Va., announces that one of his patients in that city is the mother of seven children, each of which weighed more than twelve pounds at birth and that one of them, a boy, weighed 18½ pounds.

Appointed to Staff of Merck Institute of Therapeutic Research.

The Merck Institute of Therapeutic Research, Rahway, N. J., announces the appointment of Dr. Eugene Maier as Chief Bacteriologist.

Dr. Maier is a graduate of the University of Tuebingen. Wuertemberg, Germany and completed his studies at the University of Erlangen, Germany. He was associated with the Rockefeller Institute of New York as Research Assistant from 1926 to 1930. Since 1931, up to the time of becoming associated with Merck & Co., Inc., Dr. Maier has been at Bellevue Hospital, New York, in the department of pathology, as bacteriologist for the Tuberculosis Division of Columbia University.

Dr. Charles O. Moody,

Class of '31, Medical College of Virginia, recently located at Hampton, Va., has gone to Chicago, where he is with Little Company of Mary Hospital, 95th and California Avenue, that city.

Dr. Alfred J. Coan,

Class of '33, University of Virginia, Department of Medicine, and member of the Baltimore City Medical and Chirurgical Faculty, has recently been appointed to an assistant residency in surgery at the West Baltimore General Hospital.

Dr. Alexander N. Chaffin,

Class of '29, Medical College of Virginia, recently located at Rural Retreat, Va., moved to Galax, Va., the first of this month, where he will be associated with Dr. Beverley F. Eckles at the Galax Hospital.

Dr. Charles C. Hedges,

Formerly assistant superintendent of Johns Hopkins Hospital, Baltimore, has been appointed superintendent of the Roosevelt Hospital, New York City. Dr. Hedges is a member of the class of '22, University of Virginia, Department of Medicine.

Books Available to Members.

The following are recent additions to the Library of the Medical College of Virginia, Richmond. They are available to our members, the only cost being return postage.

Findlay—Physical Chemistry.
Fischer—Local Anesthesia in Dentistry.
Fishbein—Frontiers of Medicine.
Fosdick & Scott—Toward Liquor Control.
Getman—Outline of Theoretical Chemistry.
Gifford—Handbook of Ocular Therapy.
Gilman—Organic Syntheses (Collective Vol. 1).
Ghesel—A Facsimile of the Rule of Health.
Gillespie—Physical Chemistry.
Gillies—Plastic Surgery.
Glasser—Wilhelm Conrad Roentgen.
*Graves—Gynecology.
*Gray—Anatomy.
Hall—Text-book of Quantitative Analysis.
Hapgood—History of Harvard Dental School.
Herbst—Malformation of the Jaws.
Herrick—Thinking Machine.
Hindus—The Great Offensive.
Holmes—X-Ray Interpretations.
*Homan—Surgery.
*Howell—Physiology.
Hyatt—Prophylactic Odontology.
Karsner—Human Pathology.
*Keyes—Urology.
Kingzett—Chemical Encyclopedia.
Koller—Cosmetics.
Kronfeld—Histopathology of the Teeth.
Lambert & Goodwin—Medical Leaders from Hippocrates to Osler.
Le Comte—Manual of Urology.
Lindsay—A Short History of Dentistry.
Lloyd—Felix Moses.
Lloyd—Etiodorpha.
Lloyd—Stringtown on the Pike.
Lloyd—Vegetable Drugs.
Lucas—Medicine for Dental Students.
McBride—Doctors and Patients.
McCallum—Text-book of Pathology.

Martin—The Joy of Living: an autobiography.
Mathews—Physiological Chemistry.
Medical Research Council Special Report, Ser. No. 167—Vitamins: A Survey of Present Knowledge.
*May—Ophthalmology.
Miner—New Dentistry.
Mitchell—Fundamentals of Astronomy.
Moore—The Modern Treatment of Syphilis.
Osborn—From the Greeks to Darwin.
*Osler—Principles and Practice of Medicine.
Patten—Early Embryology of the Chick.
Peterson—Huxley, Prophet of Science.
Poucher—Perfumes, Cosmetics and Soaps.
Price-Jones—Blood Pictures.

*These books are on the reference shelf and cannot be loaned at present.

For Sale—

Standard Burdick air-cooled quartz lamp. First class condition. For information, write "S. B. A.," care this journal. (*Adv.*)

Convalescent or Invalid

May obtain board in home of physician in small town near Richmond. References exchanged. Address "Wife," care VIRGINIA MEDICAL MONTHLY. (*Adv.*)

Obituary Record

Dr. John Walker Carter Jones,

Prominent specialist of Newport News, Va., died on February the 9th, after an illness of several months. He was a native of Gloucester County, Va., and fifty-five years of age. He graduated in medicine from the University of the South, Sewanee, Tenn., in 1900 and later attended eye, ear, nose and throat clinics in New York and abroad. Following this, he located in Newport News where he had practiced for twenty-seven years. Dr. Jones had been a member of the Medical Society of Virginia for a number of years and was connected with several other medical organizations and was a Rotarian and a Mason. His wife and two sisters survive him.

Dr. Harry Wilson Porter,

Widely known and beloved physician of Louisa, Va., died suddenly at his home in that place on February the 20th, the cause of death being apoplexy. He was 59 years of age and studied medicine at the University of Virginia, receiving his diploma from its Medical Department in 1896. Upon completing an internship in Richmond, he returned to Louisa and had practiced there about thirty-five years. Dr. Porter was a Mason and member of the Medical Society of Virginia since 1898. He is survived by his wife and five sons.

Dr. George Bright Young,

For many years prominent in health work, died at his home in Charlottesville, Va., February 13th, after an illness of several months. He was a native of New Orleans, La., and 73 years of age. After attending the University of Virginia for a time, he entered the University of Maryland and received his degree in medicine from that school in 1887. He entered the U. S. Public Health Service in 1890 and did much important work in this field, notable among his achievements being his term as city commissioner of health in Chicago from 1911 to 1915. Upon his retirement from the service in 1924, he located in Charlottesville, where he was elected joint health officer of the city, county and University and also associate professor in preventive medicine at the University of Virginia, which positions he held until 1931. He was a member of the Medical Society of Virginia and several other medical organizations. Dr. Young is survived by his wife and four children.

Dr. Basil Dennis Spalding

Died at his home in Richmond, Va., on February 18th. He was 70 years of age and graduated in medicine from the University of Maryland, class of 1891. Dr. Spalding specialized in diseases of the eye, ear, nose and throat but retired about fifteen years ago on account of his health. Since then he had lived part of the time in Maryland and in Richmond. He is survived by his wife and four children.

Resolutions on Death of Dr. Kimbrough.

The Norfolk County Medical Society has adopted the following resolutions on the death of Dr. A. M. Kimbrough:

On January 15, 1934, our fellow member, Dr. Allan Moore Kimbrough, passed to his eternal rest. Although he had been in practice in Norfolk less than five years, he had greatly impressed both the members of his profession and the public in general with his conscientiousness and ability. He will be particularly missed because of the great amount of charitable work he did among the poor at all the clinics of the city. His untimely death at the age of thirty-seven terminated a useful and most promising career. Therefore,

BE IT RESOLVED, That the Norfolk County Medical Society feels keenly the loss of one of its most active members.

BE IT FURTHER RESOLEVD, That a copy of these resolutions be recorded in the minutes of this Society, and that a copy be forwarded to his family and to the VIRGINIA MEDICAL MONTHLY.

G. R. BERKELEY, M. D.,
RAYMOND KIMBROUGH, M. D.,
A. D. PARKER, M. D.,
Committee on Resolutions.

End